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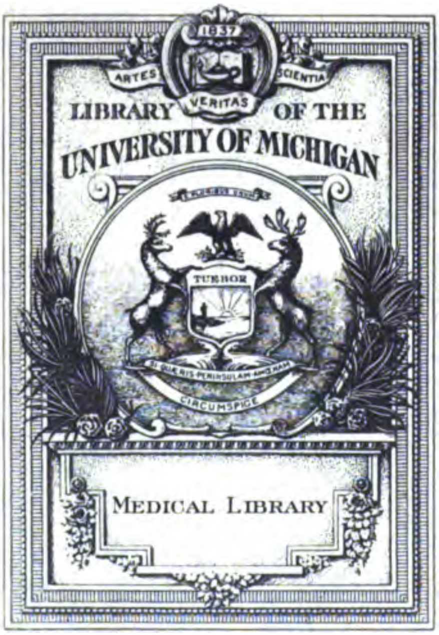

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THE LONDON MEDICAL REPOSITORY, MONTHLY JOURNAL AND REVIEW.

BY

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Quærere Verum. HORACE.

VOL. VIII.

FROM JULY TO DECEMBER, 1817.

London:
PRINTED FOR THE PROPRIETORS,
By JOSEPH MALLETT, Wardour Street, Soho:
And Sold by
LONGMAN, HURST, REES, ORME, and BROWN, Paternoster Row;
ANDERSON and Co. Edinburgh; CUMMING, Dublin;
and EDWARDS and SAVAGE, Cork.

1817.

12-3-31

Medical Soc
Kingston
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83 & 97 — 1 *for* The History *read* A Sketch.
181 — 7 *for* 229 *read* 299.
462 — 9 from bottom *for* Endemics *read* Endemic.
465 — 2 —— *for* human *read* known.
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ADDRESS.

The EIGHTH *Volume of the* LONDON MEDICAL REPOSITORY, Monthly Journal, and Review, *being completed, the* EDITORS *embrace the occasion to express their gratitude for the distinguished patronage with which their efforts have been received.*

At the conclusion of the Fourth Volume, *they felt themselves under the painful necessity of remarking, that, although those departments of their* JOURNAL, *which immediately depended upon their own personal exertions, had been generally approved, yet they were conscious that the* ORIGINAL COMMUNICATIONS *had been neither so numerous, nor of that high character, which might be expected from British Medical Practitioners: But with the truest satisfaction the* EDITORS *now feel assured that the* REPOSITORY *is no longer open to this reproach. The latter Volumes probably contain as many instructive* CASES, *and excellent* ESSAYS *in every department of Medical Science, and, certainly, as great a number of* PATHOLOGICAL FACTS *as ever appeared in any* English Periodical Miscellany: *and this collection has accrued at a period when there are more contemporary Journals than ever before co-existed in these Kingdoms.*

To persevere in the course they have hitherto pursued, the EDITORS *trust, is to merit the continuance of that support they have so largely shared. But their endeavours will never cease to augment, as much as possible, the value and interest of the* REPOSITORY; *and this they hope they may be able to effect, from having arranged new sources of Foreign Intelligence, during a visit which they have, this autumn, paid to the Continent.*

Several of the Back-Numbers of the REPOSITORY *being out of print, a new impression of them is in progress, and will be ready by Christmas.*

THE
LONDON MEDICAL
REPOSITORY.

No. 43. JULY 1, 1817. Vol. VIII.

RETROSPECT
OF THE
PROGRESS OF MEDICAL SCIENCE,
FROM JANUARY TO JULY, 1817.

Sive deest quicquam, sive abundat.
Cic. de Div. i. 29.

NO history can be regarded as either extremely interesting or very instructive, unless the historian occasionally assume the robe of the censor, and pass judgment upon the character of the transactions which he narrates. Impressed with the correctness of this observation, we have, hitherto, in our Retrospects, which may be regarded as approximating to something like the History of Medical Science for the periods they embrace, not confined ourselves to naked details of facts; but have endeavoured to examine critically, yet impartially, the value of the different opinions and suggestions that have progressively appeared; to dispel the clouds of error, and to shed the beams of truth over the path which we have attempted to trace.

In prosecuting this plan, it might be expected that, before taking up the more particular objects of our task, we should offer some opinion regarding the transactions of various public bodies, connected with the improvement of the profession, and particularly those of the Apothecaries Society, as far as they have been brought before the public *. With regard to the latter, however, we refrain from giving any opinion at present, because we look forward to the consideration of the subject in a general meeting of that branch of the profession which is particularly interested, and we have no doubt of the propriety of the judgment that will then be pronounced. The community, however, is deeply concerned; and if its confidence in those whom it was led to regard as the guardians of its welfare, in what appertains to the preservation of health and the cure of diseases, be shaken, it must look to other sources for those benefits which have been already in part sacrificed, and are likely to be altogether lost in the eager cupidity for gain of those by whom they were, fondly, expected to be cherished.

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* Vide *A Statement of Circumstances connected with the Apothecaries' Act, and its Administration.* By G. M. Burrows, M.D. F.L.S. &c. London. 1817.

Of the observations on the Surgeons' Bill, and the motives which we conceive have influenced much of the opposition it has experienced, we have already given our opinion*. The Bill itself is certainly more liberal in its principles than that which was brought into Parliament some years ago†, and properly rejected; and as there is reason for believing that those to whom its administration will be confided are actuated by an ardent zeal for improvement of their profession, we might be led to expect many salutary effects to result, both as regard surgery immediately, and ultimately the welfare of the public, by securing to that branch of practice, if not a greater combination of talent, at least a richer store of information than it has ever yet been able to boast. But circumstances are not wanting to rein in our expectations on this point. One of the most important memorials against this Bill, is that from the University of Glasgow ‡; and as far as concerns the just claims of that Learned Body, and its right to grant licenses to practise surgery, the arguments are too forcible to be neglected. One remark of the memorialists we think worthy of repetition; and the more so, because a very mistaken disposition for fencing, as it is termed, the respectability of professions, by augmenting the fees of admission to practise them, has lately too generally prevailed. "Every thinking man," they observe, "must be sensible, that the greatest favour which learning can receive, or government can bestow, is to keep the expense of education moderate."

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* Vide *Repository,* vol. vii. p. 498. † *Ibid.* vol. v. p. 261.

‡ Vide *Medico-Chirurgical Journal and Review*, vol. iii. p. 519.—As our limits prevent us from transcribing the whole of this memorial, we will endeavour, for the satisfaction of our readers, to ex-

We might close these prefatory remarks by noticing the publication of a second edition of Mr. Parkinson's Hospital Pupil, a work well calculated to improve medical education

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tract its substance in as small a compass as possible. It states, in the first place, that the foundation charter of the Glasgow University, which was granted in 1450, by the Pope, at the request of James the Second of Scotland, has been since frequently recognized and confirmed, and by recent transactions between the Government and the University, "has become a law of the land." That that charter conveyed to the University the right of granting *brevia* or *licences*, authorizing those who hold them "to exercise their respective faculty or art throughout Great Britain and Ireland:" and although the granting degrees in medicine at Glasgow was not practised until 1720, owing to no professorships of medicine having been established there before 1716; yet, since that time, "the conferring medical degrees has been regular and frequent. That a professorship of surgery in the University was a year and a half ago established and endowed by the crown, and thence the University conceives that it is, consistent with its oath *de fideli*, obliged to grant diplomas in surgery. That proscription cannot be pleaded against the University, because, by having continually exercised their privilege of granting *brevia* in any one faculty, they have "secured their right to exercise it in all."

The memorial next proceeds to shew, that the establishments of the University in the medical department are nearly complete; that their professional chairs have been filled by such men as Cullen, Black, Robison, and Irvine; and the studies connected with medical science have been recently much advanced by the establishment of an Infirmary, by Dr. William Hunter's richly stored Museum bequeathed to the University; and by the addition of a chemical laboratory and an anatomical theatre: improvements which had proved expensive to the University, but had increased the number of medical pupils resorting to it, from thirty or forty annually to between three and four hundred. But if the right of granting diplomas in surgery be taken away, all the other advantages will be insufficient to secure the resort of students to Glasgow, and thence the University must suffer.

but as we intend, at an early opportunity, to present our readers with an analysis of the work, we shall at present defer bringing forward our opinions on the subject of which it treats.

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

IN the short periods of time which our Retrospects embrace, we cannot be expected to be always able to record improvements in every branch of medical science, or even to have to notice the publication of many new works. No treatise exclusively on Anatomy has appeared during the last six months; but the controversy between Dr. John Gordon and Dr. Spurzheim, regarding the claims of Professors Gall and Spurzheim to discovery in the anatomy of the brain, has excited considerable interest. We believe the following are the circumstances connected with that discussion: About the end of June last year Dr. Spurzheim having repaired to Edinburgh, took an early opportunity of giving a public demonstration of the brain, at which many eminent anatomists were present; and among others Dr. John Gordon, who is supposed to have written the criticism on Dr. Spurzheim's Physiognomical System in the Edinburgh Review, in which, besides holding up to derision the physiological and physiognomical doctrines of that work, he depreciates the anatomical views of Gall and Spurzheim. To afford to Dr. Gordon an opportunity of defending his opinions, Dr. Spurzheim consented to give a second public demonstration at Edinburgh, and to enter into a disputation with his adversary; but as too much warmth of temper was displayed at that exhibition to permit the question to be properly settled, Dr. Gordon, early in this year, published "Observations on the Structure of the Brain*," in which an attempt is made to estimate the claims of Drs. Gall and Spurzheim to the title of discoverers; and was answered by Dr. Spurzheim in a pamphlet, containing an "Examination of the Objections made in Britain against the Doctrines" of himself and his coadjutor Dr. Gall†.

Dr. Gordon in his introduction states it as his opinion, that the general ignorance of medical men, as far as regards the minute anatomy of the brain being "favourable to the progress

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[*] *Observations on the Structure of the Brain*, &c. By John Gordon, M.D. F.R.S.E. 8vo. pp. 215. Edinburgh. 1817.

[†] *Examinations of the Objections made in Britain against the Doctrines of Gall and Spurzheim.* By J. G. Spurzheim, M.D. 8vo. pp. 87. Edinburgh. 1817.

of any hypothesis respecting the structure of this part of the human frame," may be ascribed to this cause: "the support, with which the alleged discoveries of Drs. Gall and Spurzheim are said in several places to have been honoured." He disbelieves them; and adds, speaking of their authors, "that the descriptions which they have derived from the writings of other anatomists, and which they have sometimes modified, but never improved in the transference, make up the whole portion of truth which this new system comprehends." (p. 5.) As this is a serious charge; let us examine briefly the manner in which it is supported, and in which the accusations are rebutted by Dr. Spurzheim. It is requisite, however, first to notice, that, as containing the most complete summary of the doctrines which he examines, Dr. Gordon has printed, in the Appendix to his volume, a literal translation of the article *Cerveau*, in the 4th volume of the *Dictionnaire des Sciences Medicales*, which was written by the German professors themselves, and bears their signatures.

Dr. Spurzheim does not notice in his reply any of the general charges of plagiarism in Dr. Gordon's Introduction, but descants on an observation of his opponent, that although a minute knowledge of the brain may be important in a physiological point of view, yet, "it is fortunately not of essential consequence in the practice of medicine." We do not, however, think he has satisfactorily proved the reverse of this position; more particularly as he assumes, as the foundation of his arguments, that "the brain alone explains the various instincts of animals, the innateness of genius, and all the modified manifestations of the human mind," each of which he asserts has its appropriate part in the brain; positions which, to speak in the least objectionable manner regarding them, are certainly not generally admitted.

Dr. Gordon commences his investigation by examining the statement of the professors, "that the *white substance* of the brain is *fibrous* in its structure." He admits the fibrous structure of this substance, but denies that it can be rendered distinct to the naked eye, even by *scraping*, a method of demonstrating it, which, although claimed by Drs. Gall and Spurzheim as their own, was employed by *Vieussens*: but he prefers *Reil*'s method of hardening the brain in alcohol and other media. He charges the Professors with affirming, that the fact of the fibrous structure of this part of the brain "was known to few anatomists;" and gives extracts from Malphigi, Vieussens, Haller, Mayer, Reil, and Portal, to prove their acquaintance with the fact; while he taxes Dr. Spurzheim with having denied, at his second demonstration, "that he had ever affirmed that the *white substance* of itself, unmixed with the *grey*, possesses "any such structure." He condemns the Professors for styling the cineritious substance inorganized, adding the evidence of *Reil* and *Soemmerring* in proof of its fibrous structure; and he regards their hypothesis, "that the use or function of the *grey substance*, every where, is to form the *white*," as "absurd," and unsupported by "the shadow of a proof." In answer to these accusations Dr. Spurzheim denies that he and Dr. Gall ever thought of maintaining that the fibrous structure of the brain was unknown before their times, and refers to quotations in their work of authors who knew the fact; but he does not notice the charge regarding their hypothesis of the formation of the white substance.

Dr. Gordon next examines the opinions of his opponents respecting the *fibres of the brain;* and regards their assertion, "that the diverging fibres of the cerebellum take their origin from the *grey matter* lodged in the interior of the medulla oblongata," as a mere assumption. He thinks it is impossible "to trace any fibres, either from the corpus restiforme, or from any other part of the medulla oblongata, into the corpus dentatum," as described by Gall and Spurzheim; denying that the corpus dentatum is a mass of grey substance; but affirming that it is a nucleus of white nervous matter, surrounded "with a thin capsule of brown;" that no nervous bundles enter or leave it; and that there is no correspondence in size between its projections and the laminæ of the cerebellum; while at the same time he maintains, "that there is no such system of *diverging fibres* in the cerebellum as Drs. Gall and Spurzheim have described;" and that their system of *converging fibres* is equally visionary. He adds, that when Dr. Spurzheim, at his second demonstration at Edinburgh, was urged to demonstrate these parts, he excused himself, "on the ground that the cerebellum had already been too much destroyed by the previous stages of dissection;" but they have not been demonstrated by them to any anatomist in this country, and were not endeavoured to be displayed to the Committee of the French Institute. In reply, Dr. Spurzheim maintains that he displayed all these parts at his second public demonstration, and that they were seen by every one present but Dr. Gordon; and fairly offers to shew the set of fibres which bring the cerebellum into communication with the medulla oblongata to any one who shall procure a fresh brain*: but his statement is weakened by some personal reflections on his opponent's faculty of vision, which he has imprudently allowed himself to employ: indeed we have to regret, for the sake of truth, that the vein of personal attack which runs through the whole of this pamphlet, is very likely to injure the cause it is meant to defend, in the opinion of the majority of its readers.

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* It is but justice to observe that one of the Editors of this Journal, along with Dr. Pearson, and twelve other Gentlemen, had these parts most clearly pointed out to them by Dr. Spurzheim, in London.

Having finished the examination of the cerebellum, Dr. Gordon proceeds to that of the Brain proper. In treating of the *diverging fibres*, he refuses to his opponents not only the merit of discovering the decussation of the filaments of the pyramidal eminences, as that was known and described by Mistichelli, Francis Petit, Santorini, and others, from whose works he quotes largely; but even he will not allow them the merit, which the French Commissioners admitted, of having recalled the attention of physiologists to that fact. He denies that there is any proof of the fasciculi from the pyramidal bodies receiving reinforcements "in their progress through the annular protuberance;" and that Drs. Gall and Spurzheim ever traced these fasciculi accurately through that protuberance: and he ascribes the revival of the investigation of the fibrous structure of the brain in modern times altogether to Reil[*]. He, also, accuses his opponents of having taken no notice of the numerous "delicate filaments of white substance, which shoot out from the anterior radiations of the crura into the inner bulbous part of the corpora striata, and are there entirely lost;" because such a distribution is "quite irreconcilable with their system of continued reinforcement." He states, that, at his public demonstration, Dr. Spurzheim was not able to shew the fibrous structure of the white bands of the corpus striatum, although nothing is more easy, if the brain be prepared according to Reil's method; and, when requested to trace them into the grey substance, that he asserted he had "nowhere professed in his writings, that he could trace the fibres, either of the *diverging* or *converging system*, farther than the bottom of the convolutions," an assertion at complete variance with the passages quoted by Dr. Gordon from his physiognomical work. The inaccuracy of their account of the *second set of diverging fibres* is also pointed out; and the impropriety of regarding as gangleons, the corpus olivare and the optic thalami, are commented on. There is a great deficiency in Dr. Spurzheim's reply to these charges; many of them are scarcely noticed; and a considerable portion of the section is taken up with the account of a dissection of a hydrocephalic brain, in the Edinburgh Infirmary, which was so conducted that neither the pupils, amongst whom Dr. Spurzheim had placed himself, nor the Doctor, could see what was going forward; and the blame of "preventing this case from receiving its proper publicity," is of course ascribed to Dr. Gordon. He is more successful in refuting the charge of plagiarism, and shews pretty clearly that Reil rather owes his views of the subject to Gall, than that the professors have defrauded him. He has also succeeded in refuting the charge, that he had denied "that the white substance, apart from the grey," exhibits a fibrous structure; and asks, "is not the whole order of our converging fibres white?" and also the corpus callosum, the fibrous structure of which he had demonstrated.

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[*] Reil published an essay suggesting his first ideas on this subject in *Gren's Journal* for 1795; and the final results of his investigations in the *Archives of Physiology* for 1809 and 1812.

With respect to the *converging fibres*, Dr. Gordon proceeds to shew that the statement of the professors, which assumes that, in conjunction with the diverging fibres, these make up the convolutions of the brain, is a mere chimera, and utterly incapable of demonstration; and that their hypothesis of the convolutions being each composed of two laminæ of fibres, joined together in the middle by a *mucous neurilema*, is as unsubstantiated: the experiments attempted in order to demonstrate it being inadequate, while the separation is equally easily effected at any part of the convolutions as at the median line, where the professors assert the layers are united by a *mucous neurilema*, or *very fine cellular tissue*. The fallacy of this hypothesis being proved, that which ascribes to the fluid in hydrocephalus the separation of these laminæ, must appear equally futile, and Dr. Gordon advances sufficient arguments to prove its insufficiency. The separation of the laminæ, he observes, could not be effected without lacerating the substance every where intervening between the ventricles, "and the bottom of the convolutions," which is never remarked to be the case in hydrocephalus, and "could not occur without rupture of vessels and fatal hæmorrhage:" for were the convolutions merely split by the distending powers, they would be found in every state of separation; but long after they become shallow, they are found solid: and he further contends, that the assertion that "there is no loss of substance in a hydrocephalic brain in any stage of the disorder, is a position not only without proof, but demonstrably incorrect." In answer to these various objections, Dr. Spurzheim maintains that each convolution can be easily separated in the middle line, and unfolded into two layers; but he deserts the position that the laminæ are united by a neurilema; stating that this had never been positively asserted, and that the answer to a query of the French Commissioners, on this point was—"une adhérence de contiguité entretenue *peut-etre* par du tissu cellulaire." It certainly is of little consequence whether the laminæ are thus agglutinated, if they can be unfolded. He still defends the opinions of Gall and himself, regarding the the state of the brain in hydrocephalus, and thus explains the changes which take place: "The principal changes take place in the corpus callosum, its appendices, and the convolutions of both hemispheres. The corpus callosum is entire, and lifted up towards the top of the head, the falx is elongated, the convolutions sometimes quite distended like a thin membrane of cerebral substance, from within white and horizontal fibres, and covered on the external surface with cineritious substance. The distension, however, is not mechanical, but also vital and susceptible of modifications, on account of the continual decomposition, and new composition which take place in the organization in general." The accuracy of this explanation has still to be confirmed by future dissections, and accurate examinations of hydrocephalic brains. The remainder of Dr. Gordon's book is occupied with remarks on Dr. Spurzheim's plates, which we do not think of sufficient importance to notice: indeed, we would not have commented at all on this controversy, if it had involved merely a question of difference of opinion between the disputants; but it is of the first importance to elicit truth on every subject connected with the animal œconomy, and we know of no method by which it can be so effectually accomplished as by raising doubts, and exciting discussion.

Mr. Charles Bell has thrown out some hints on the structure of the cranium, to shew that its form and joinings prove design, although they have been attributed to accidental circumstances*. He compares the sphenoidal bone to the tie beam of the centering of an arch; intended to counteract what is termed a horizontal thrust, and to prevent the lower part of the parietal bones from being thrust outwards; a security which is chiefly affected by the tranverse position of the sphenoid, "and the strong embrace of its alæ upon the edge of the parietal bones." He conceives there is a strict analogy also between "the manner in which the parietal bone sits down upon the temporal bone," and the graining, "which is the foundation of a wall in masonry;" the temporal bones resembling the abutments of the arch of the parietal bones. The skull, therefore, being built as it were on the principles of an arch, we see the reason "why a man falling upon his head," or struck on the vertex, "does not suffer at the part struck, but has a fissure in the temporal angle of the parietal bone." The sutures he regards as joinings by dovetail, or tenon and mortoise; and there is evident design in these indentations being on the outer table only of the skull; for as the inner table is more brittle, it "is unfit for this form of union." These illustrations are taken from the work of the mason and carpenter; but, (we think it is an observation of the illustrious Boyle,) "much philosophy is to be acquired in the work-shop of the artizan."

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* Vide *Surgical Observations*, by Charles Bell, vol. i. p. 478.

The importance of *morbid anatomy* in elucidating diseases, and thence establishing more successful methods of treating them, becomes every day more obvious, and few practitioners now neglect the opportunity of examinations post mortem. Many very valuable cases of morbid dissection are recorded in the volume of the *Repository* which we just closed*. One of these, detailed by Dr. *Granville*, proves that there was at least some foundation for the statement of several of the older anatomists relative to the existence of a particular duct, for conveying the secreted bile from the liver immediately into the body of the vesicula fellis†. Another by Mr. Parkinson demonstrates in a striking manner the incorrectness of Dr. Spurzheim's opinion, regarding the integrity of the brain, however much it may be distended, in hydrocephalus, whilst the intellectual faculties remain uninjured‡. Some practical suggestions on the treatment of this disease have arisen from the dissection of a case of hernia of the dura mater, detailed by Mr. Earle ||. The hernial sac, which was ten times punctured, and a considerable quantity of fluid drawn off from it, was found on dissection to communicate with the ventricles, from which the fluid had been evidently supplied. That the difficulty of lying in a completely horizontal position, on either side, is not always an attendant of hydrothorax, is illustrated by the appearance found on the dissection of a case of dyspnœa, recorded by Dr. *Lettsom*§: a pint of limpid fluid was found in the left sac of the pleura, and two ounces in the pericardium. In the dissection of a fatal case of abscess of the lungs, which had burst externally, and rendered carious the ribs, Dr. *Johnson* found masses of calcareous matter in the abscess, which "appeared like broken pieces of arborescent coral," and "lay partly loose, partly ramified through the other substance." The roots of the pulmonary artery and veins were partially ossified. The liver, which was

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* Vide *Repository*, vol. vii. p. 92, 101, 119, 120, 278, 287, 330, 375, 426, 469, 526.

† Ibid. p. 158. ‡ Ibid. p. 208.

|| *Medico-Chirurgical Transactions*, vol. viii.

§ Vide *Trans. of the Med. Society of London*, vol. i. part ii. art. 9.

very large and much diseased, appeared to have been the primary seat of disease*. The following remarkable appearances in a case of dropsy were observed in a dissection of the case by *Bezard*. The peritoneum was found to be three lines in thickness, cartilaginous, and resembling at first sight a rind of bacon. The omentum, mesentery, liver and gall bladder, spleen, pancreas, kidneys and urinary bladder, had, as it were, disappeared, and in their stead a scirrhus mass found towards the right side, resembling the liver in shape, and containing pus†. Besides the instance of complete reversion in the principal organs and viscera, which occurred at one of the dissecting pavilions of the *Hospice de Perfectionnement*, as described by Dr. Granville, in his second letter on the present state and progress of Medical Science in France‡, we have to notice an instance of preternatural position of the heart, related by Dr. Amelung‖. During the life of the patient the movements of the heart were felt on the right side; and on opening the chest, after death, neither heart nor lungs were found in the left side; but, instead of them, about ten pounds of watery fluid, and a small portion of something like lungs, shrivelled and resembling a dry sponge, the size of the egg of a goose, enclosed in a sac of the pleura above the mediastinum. The pleura lining the left cavity of the thorax was thick, like leather, and of a yellow olive colour. The heart was found in the right cavity, with the apex towards the right hypochondrium. "The aorta arose from the anterior portion, but the vena cava had emptied itself into the posterior part. The lungs on this side were tuberculated; and some of the tubercles in a suppurating state. The patient was a tall robust man, thirty-one years of age, and had served five years as a soldier."

With full conviction of the utility of PHYSIOLOGY, we feel much gratification in tracing, not only the rapid progress which is making in that branch of Medical Science, but the prevailing disposition of the inquirers to throw aside those fanciful hypotheses and illusions, which have so long tended to impede the pursuit of truth; and to be guided only by experiment and observation. It is not easy to explain the reason, why Physiology has found so few votaries, comparatively speaking, in this country; while it has found so many, and so much has been effected on the other side of the channel. The most important, and, in fact, the only work generally on this subject, within the last six months, is the second volume of M. Majendie's work, "*Précis Elémentaire de Physiologie.*" It contains the history of the *nutritive* and *generative functions*; and is fraught with original and well-conceived experiments, admirably qualified to stimulate inquiry in others; but as we mean to lay an early analysis of the volume before our readers, it is unnecessary here to dilate on its merits.

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* Vide *Med. Chirurg. Journ.* vol. iii. p. 255.
† *Continental Medical Repertory*, No. 1. p. 139.
‡ *Repository*, vol. vii. p. 163.
‖ *Continental Med. Rep.* No. 1. p. 137.

Of a different character, but certainly not devoid of interest, are Dr. Park's Physiological Essays. The continuation of them, which has appeared since the period of our last *Retrospect*, treats of "the laws of muscular motion*." In pursuing his subject, Dr. Park observes, that it is not essential for arriving at correct conclusions regarding the general laws of motion, "that we should ascertain the agent by which muscular contraction is effected, or that of the change it produces;" these laws, like those of matter, being best deduced from the phenomena. On these principles he lays down the following as laws of muscular motion: "1. That exertion is productive of certain changes in the organs of motion, which are accompanied by corresponding changes in the powers of action. 2. That the powers of action have certain limits prescribed to them, which sooner or later require the renovation derived from rest." The continuance of every exertion is followed by fatigue, and this our author contends, "arises from a change of condition in the moving fibre, effected by the repeated application of the nervous influence:" and that the mind becomes conscious of this change, when it arrives at a certain degree, owing to a portion of nerve being blended with, and entering into the composition of the muscular structure. But he denies "that the sense of fatigue arises from the expenditure or exhaustion of that power or energy imparted by the nerve to the moving fibre; and not from the changes produced by its repeated application. He maintains that the state of the moving organ, on the approach of fatigue, is that of over-contraction, not that of relaxation; and hence nothing is more common than cramps or spasms in the calves of the legs, and the soles of the feet," as fatigue approaches; and when it is carried to excess, there is an actual state of the muscle almost approaching to inflammation, and a rigid contraction, equally in the flexor and extensor muscles. These phenomena are objects of observation and experience in the voluntary organs; but their operation, Dr. Park argues, "can be shewn to extend also to those which are involuntary;" the motions of both being merely "different modifications of the same faculty;" and in both, derived, as Dr. Whytt contended, immediately from the nerves. Notwithstanding the high authorities of Haller and Bichat, who, while they admitted that nerves are the chief instruments of voluntary motions, yet denied that they have any thing to do with that which is involuntary, our author brings forward many and very plausible reasons in favour of the theory he supports. Having established "the unity of the motive power under both its modifications, and the subjection of both to the same general laws," he next examines "the connection that prevails between the vital properties and the state of the circulation." As our limits prevent us from following his arguments closely, we shall merely observe, on the facts, that those parts of the muscular system most conspicuous for mobility are most abundantly supplied with red blood; and that every change in the state of circulation produces a correspondent change in the degree of mobility; or, whatever increases circulation, and determines red blood to the muscles, is productive of a temporary augmentation of mobility; while, on the contrary, whatever diminishes these, is followed by a diminution of moving power. He endeavours to establish the position, that, increase of mobility uniformly attends increase of circulation, "both in healthy and morbid states; the motive power, as well as the sentient faculty, bearing always, within certain limits, relation to the quantity of arterial blood circulating in the minute or capillary vessels of the muscular system."

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* Vide *Journal of Science and the Arts,* vol. ii. p. 224.

In our last *Retrospect*[*] we noticed the very ingenious experiments of Dr. Johnson, confirming the position of Dr. Parry, that "in ordinary states of the system, there is neither dilatation nor contraction in the arteries corresponding with the systole and diastole of the ventricle." Without doing more than merely referring to the controversy between Dr. Johnson and Mr. Hastings on this subject[†], in which the objections of the latter were by no means successfully maintained; we have to notice that Dr. Parry's opinion has received a strong confirmation, and has been much elucidated by a fact observed by Professor Dollinger, who was led to conclude, that "by the wave of blood driven into the arteries by the heart, the impulse is communicated to the parietes arteriarum in such a manner, that it may be felt without the artery suffering any dilatation[‡]." As connected with the circulation, we may notice here the confirmation of Dr. Gordon's observation, that arterial blood becomes buffy, in a case in which the blood was drawn directly from the temporal artery, by Mr. Dunn of Pickering, and which we have recorded*. Having a considerable affinity also with it, is the interesting paper of Dr. J. Davy, which will be found amongst our Selections†, on the heat evolved during the coagulation of the blood, in which he supports from a variety of experiments the opinion first advanced by Mr. Hunter, "that during the coagulation of blood, there is no sensible evolution of heat."

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[*] Vide *Repository*, vol. vii. p. 13.

[†] Vide *Repository*, vol. vii. p. 196 and 364.

[‡] *Continental Medical Repertory*, No. 1. p. 128.—The following is the fact from which the Professor drew his conclusions: "Happening to visit some water-works a few years ago, he found that on

No investigations in physiology are of more importance than those connected with vision. Dr. Brewster and Dr. Gordon‡ have ascertained that the refractive powers of the aqueous and the vitreous humours of the human eye, are greater than that of water, that of the vitreous humour being the highest. These physiologists have also proved, that the crystalline lens ex-

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taking hold of some pretty thick leaden pipes, in which the water was forced up by pumps, he could plainly perceive an impulse, as often as a wave was driven into them, very much resembling that which is felt in the arteries. As the pipes were well secured and fastened, as no trembling could be perceived in them, and as what was felt was the absolute impression of undulation, he could not derive the sensation he felt in his hand from the impulse of the piston of the pump; and thus recollected the pulse, and particularly as in vivisections he had always found it immoveable, he was now anxious to know whether a pulse might be discovered in living animals in an artery when laid bare: he thus laid bare the carotida of a dog, in the presence of several of his pupils, and a pulse was plainly felt in it, though no motion was visible in it. If we now consider, continues he, how seldom actual contractions have been observed in the arteries, we shall hardly be able to persuade ourselves of the vital motions of the parietes arteriarum being the cause of the pulse; and thus many first rate physiologists found themselves compelled to suppose only a mechanical dilatation of the arteries. But nobody, to my knowledge, having ever observed that either, I feel myself now convinced, that the arteries do not suffer any alternate contraction or dilatation at all whilst producing that effect called the pulse."

We would not accuse the Professor of plagiarism; but the following expressions in his reasonings on his experiments, "only the last series of elastic balls is moved, on an impulse being applied to the first, whilst all the intervening ones remain in a state of inactivity," incline us to think he had obtained some information of Dr. Parry's opinions.

* Vide *Repository,* vol. vii. p. 466.

† Ibid. p. 320, and *Journal of Science and the Arts,* vol. ii. p. 246.

‡ *Journal of Science and the Arts,* vol. iii. p. 134.

hibits a polarizing structure equal to that of quartz, or the same as the middle of the crystalline in fishes, and the tint polarized by it being a faint blue of the first order. The cornea has an opposite polarizing structure, being nearly the same as that of calcareous spar; or as the outer and inner coats of the crystalline lens in fishes.

No physiological question has elicited so many hypothetical explanations as that regarding the nature of conception and generation; and perhaps on none has so little that is satisfactory been published. Some observations which Sir Everard Home has had an opportunity of making, have led him to hazard a new opinion on the subject. He conceives that impregnation may take place without the existence of the catamenia; and that, whenever any great excitement of the female system occurs, an ovum may pass from the ovarium into the uterus; and that, when it is there brought into contact with the male semen, impregnation takes place*. We confess this statement is not very satisfactory to us; but, as a mutilated account only of his paper is before the public, we will reserve our comments upon it until the whole be published. But if the early part of the process of utero-gestation be obscure, much light has been thrown upon its more advanced periods. One curious physiological fact connected with the expulsion of the fœtus, and its spontaneous evolution, we formerly slightly noticed†; but we are now enabled to refer to what we trust will be regarded as a fair exposition of the subject, in our analysis of Drs. Douglas and Kelly's Essays‡.

The most important use of physiological inquiries is undoubtedly the elucidation of PATHOLOGY: and it is in this point of view only in which they can be ever regarded as practically useful. In commencing our remarks on this part of our subject, we cannot avoid noticing the great light that has been of late years thrown upon the treatment of Insanity, by the examination of the state of the brain which professional men now almost generally endeavour to obtain in fatal cases of that disease, or where states of mental faculties approaching to it have existed. In this point of view, we consider Mr. Hastings' account of an anomalous structure of the brain* highly interesting. How far, however, the anomalous structure, which was not the effect of disease, and consisted of the deficiency of the posterior cornua of the ventricles, and consequently of the hippo-campus minor, can be regarded as the cause of the defect of intellect of the patient, who was an idiot, it would be rash to decide: but it is singular that, in another head of a man of equally weak intellect, examined by Mr. Hastings, the posterior cornua were also wholly deficient.

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* Sir Everard was led to these conclusions from the following circumstance:—"A female servant having left her master's house for a few hours, on the 7th of January, and returned in high spirits, was in a few days seized with an epileptic fit and fever, and died on the 15th. On opening the body, an impregnated ovum was found in the uterus, so extremely small that it would have escaped observation, had not Mr. Bauer, by his skill in the use of his powerful microscope, detected and delineated it. It had come from the ovarium of the left side, which was of a larger size than the other.—Vide *Phil. Mag.* vol. lxix. p. 376. and *Annals of Phil.* vol. ix. p. 468.

† Vide *Repository*, vol. vii. p. 59.

‡ Ibid. vol. vii. p. 385.

The dependance of spasmodic and convulsive affections on some peculiar morbid change in the state of the brain, or some part of the nervous system, has been generally admitted: but the nature of this change has not hitherto been satisfactorily explained. Some new light has been attempted to be thrown on the subject by Dr. Moulson of Chester. He conceives that "when such a column of blood presses upon the brain or spinal marrow, as not entirely to overcome the nervous energy, then convulsions occur." On the same principle he imagines that any irritation applied to a part beset with nerves, will "occasion such a part to exert all its nervous influence to overcome or free itself from such an irritation; of course an increased quantity of blood will be solicited to support these actions; which actions, too long continued, destroying the usual contractile power of the vessel or vessels, will occasion such a debility in them, as to allow of a turgescence of blood here and there, unequally pressing upon the nerves, thereby occasioning spasmodic or convulsive movements†." If this view of the pathology of convulsive action be correct, it is easy to conceive that the greatest benefit must result from the abstraction of blood; and some cases detailed by Dr. Moulson have practically evinced, in this respect, the accuracy of his theory. In a certain degree it is confirmed by the dissection of a fatal case of tetanus by M. Patissier, a French surgeon, who found that "the membranes lining the cavity of the spine," and the internal surface of the heart, "presented a highly inflammatory aspect‡."

We have been enabled to lay before our readers a very clear and masterly exposition of "the Primary Elements of Disordered Circulation of the Blood," by Dr. Whitlock Nicholl, which we particularly recommend to the attention of our junior readers*. Intimately connected, also, with the pathology of the circulating system, are some very interesting experiments on *the transfusion of blood*, made by Dr. Leacock†, tending to shew the advantage of this process "in extreme cases of hæmorrhage." Dr. Leacock, reasoning, very justly, that the only stimulus by which the heart and circulating system can be roused when nature is exhausted by excessive hæmorrhage, is the supply of that pabulum which has been lost, found his ideas confirmed by experiments upon animals of the same species. He drained, for example, the blood from a dog, until the animal fainted and appeared at the point of death, and then immediately transfused into its vessels the arterial blood of another dog; the consequence was the restoration of the receiving dog, who, from lying half dead, raised his head; the pulse, before imperceptible, began to be plainly felt; the eye that was dull and glossy regained its former splendour; the respiration became easy and natural; "and the dog, having completely recovered, when let loose, ran about with ease and apparently very little indisposed." From Dr. Leacock's experiments, it appears that the blood to be transfused should, perhaps, be that of an animal of the same species, or nearly so; but it is also evident, from experiments, in which blood from a sheep was transfused into a dog, that benefit may be produced when the blood of a herbivorous animal is transfused into one altogether carnivorous. That this practice may prove useful in excessive hæmorrhages, when blood can be obtained from an healthy individual, is probable; but we are not prepared to accord with the opinion that it will prove useful in diseases connected with deficiency of blood.

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* Vide *Repository*, vol. vii. p. 74.

† Vide *Medico-Chirurgical Journ. and Review*, vol. iii. p. 369.

‡ Vide *Repository*, vol. vii. p. 251.

Mr. Salt has investigated the "mode by which constitutional disease is produced by the inoculation of morbid poisons‡." He conceives that when a morbid poison is applied to an abraded surface, it is not directly absorbed, but induces a new secretory action in the *very contiguous* arteries, by which a morbid fluid similar to that with which the person was inoculated is generated; and then, but not before, the poison is absorbed and carried into the system. He founds his opinion on the facts that local inflammation always precedes and accompanies the constitutional disease produced; and he believes that, as inoculation of a morbid poison does not always produce this effect, nor is always followed by constitutional disease, the deposited poison, when absorbed without exciting local inflammation and a new secretory process, "is harmless." Hence "excision or destruction of the contiguous organized structure," prior to this process, will prevent the constitutional effects; but these may always be expected to follow, when the local effect is produced and goes through its regular stages. The length of time required for giving the necessary impulse to the secreting vessels; as, for example, in hydrophobia; and the difference displayed in different individuals in this respect, is justly regarded as forming no objection to his theory. The immediate absorption of animal poisons, however, such as that of the rattlesnake, &c. he admits is an exception to the general law.

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* Vide *Repository*, vol. vii. p. 441.

† The Inaugural Thesis, containing these experiments, was published last year at Edinburgh. For a plate of Dr. Leacock's apparatus, see *Medico-Chirurgical Journal*, April 1817.

‡ *An Essay on the Mode by which Constitutional Disease is produced from the Inoculation of Morbid Poisons*, by Charles Salt, 8vo. pp. 88.

Connected with the absorbent and exhalent systems, is the following very curious circumstance noticed by Mr. Rigby of Norwich *. A precipitation, if it may be so termed, of sulphuret of mercury occurred all over the skin, giving it at first a dirty, dusky-blue colour, and afterwards a completely black hue, in a patient who had been employing first frictions with sulphur ointment; and soon afterwards, while the fœtor of the skin evinced the continued sulphurous impregnation, began the mercurial friction. The phenomenon has no analogy with the effect sometimes produced by the long-continued use of nitrate of silver, and admits of a more easy explanation.

It has generally been supposed, that the valve-like obstruction, which the prostate gland occasionally offers to the flow of the urine, is owing to the enlargement of the third lobe: some dissections, however, by Mr. Shaw, have satisfactorily demonstrated that the part projecting into the bladder and forming the valve, is not the third lobe, "but a more anterior part of the gland." He has, also, ascertained "that whenever there is this valvular projection from the prostate, the muscles of the ureters are enlarged," and will be found inserted at the root of the tumour†.

A singular consequence of the existence of worms in the intestines is recorded in a paper of the late Dr. Lettsom. The patient had all the symptoms of enlargement of the mesenteric glands: but after the application of leeches to the abdomen, with soothing fomentations, and the internal use of the pilula hydrargyri, a circumscribed inflamed tumour appeared below the navel, and

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* Vide *Retrospect*, vol. vii. p. 266. † Ibid, vol. vii. p. 243.

suppurated. When it was opened, a puff of air escaped; but was not followed by fæces: and a few weeks afterwards, on removing the poultice, a lumbricus, alive, and nine inches in length, was observed in the abscess, and carefully drawn out. Some bubbles of air, fæculent matter, and the seeds of apples and pears which had been eaten, occasionally protruded: but the patient, a female, perfectly recovered*.

The effects of ascending great heights have been often detailed by travellers, but of the histories of this nature on record, few have been so satisfactory as the account of the effects on himself and his party, given by Col. Beaufoy, of a visit to the summit of Mount Blanc†. At a height, little above one half of that of the mountain, the appetite for food failed, there was a strong aversion from the taste of spirituous liquors, and the whole party felt extremely drowsy; on still ascending, the thirst became insupportable; and, although the party were continually drinking water, which they carried, yet the urine was not increased in quantity, and the little that passed was very high coloured. "The air itself," to use Col. Beaufoy's strong language, "was thirsty; its extreme dryness," he adds, "had robbed my body of its moisture." When at the base of the small pyramidal mountain, which, correctly speaking, is Mount Blanc, the head became affected with a dull heavy pain, and an acute sensation of pain, also, "very different from that of weariness," was felt in the limbs immediately above the knees; the desire for sleep became irresistible as the party advanced, and the greater part were affected with severe vomitings. Colonel Beaufoy himself was affected with violent palpitations, whilst on the summit ‡; and his respiration was performed with difficulty; on descending, he experienced, after taking some repose, a tormenting pain in his face, which became one continued blister, and he was unable to open his eyes‖, until they had been bathed in warm water for half an hour. Such are the results of the principal investigations on the subjects forming this division of our *Retrospect*, which have occurred within the last six months. If they are few, some of them are not unimportant; and, if properly applied, cannot fail to aid in advancing science.

Before concluding, we cannot avoid noticing the singularity of three new systems of Nosology having been offered to the pro-

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[*] *Trans. of the Medical Society of London*, vol. i. part ii. art. 7.

[†] *Annals of Philosophy*, vol. ix. p. 97.

[‡] According to Saussure, the summit of Mount Blanc is 15,700 English feet in height.

[‖] This inconvenience was not experienced by the guides, owing to their wearing masks of black crape.

fession within a few months of each other. Two of them are professedly mere outlines, and should be regarded as such: but the third is a more complete work, and consequently may be fairly brought to the bar of criticism. In the first*, its author, Dr. Parkinson, has attempted the division of diseases into two classes, which he denominates *Hyperbiosis* and *Catobiosis*: in the former, the natural functions are exercised above the limits of health; in the latter, depressed below these limits. Each of these classes he has divided into three orders, founded upon anatomical construction; while he makes the genera dependant upon, and limited to, identity of diseases; the species on situation; and the varieties to introduction of poisons. Views so novel necessarily required an appropriate language, and this Dr. Parkinson has invented; but, as has been justly remarked by a cotemporary journal†, in which the work has been critically noticed, the task he has undertaken is not only arduous and difficult, it "is impossible—to reduce nosology to a progressive, methodical, and logical system, fixed upon solid and just principles, governed by acknowledged and inflexible laws, and divested of fanciful and delusive hypothesis." Of the second‡, Dr. Nicholl's *Tentamen*, which was given to the public through our pages, and on the character of which our readers must have already decided for themselves, we will not further express an opinion, than that it is highly creditable to its author. Our sentiments regarding the value of the third§ are already before the profession. Whatever may be the individual merits of these systems, their appearance is indicative of a desire for the improvement of medical literature, which cannot be contemplated without feelings of satisfaction.

CHEMISTRY.

As usual, we have abundant materials for this division of our Report; but our notices will be brief, except as respects those improvements which are more immediately connected with medicine.

In no branch of science does the perfection of apparatus tend so materially to facilitate research as in chemistry. Hence every suggestion on this point is of importance. In our last *Retrospect* we noticed the improvement of Newman's blow-pipe, and the application of that instrument for obtaining a very intense heat from the ignition of mixed gases. The explosion of Dr. Clarke's apparatus excited the attention of the ingenious, and many improvements intended to prevent explosion have been since suggested. The first which is worthy of notice, besides that which we formerly described*, as the invention of Mr. Newman, but which was properly that of Professor Cumming who adapted to the instrument the pneumatic cylinder, is the proposal of Dr. Clarke to use oil in this cylinder instead of water, which he considered was calculated "to prevent the possibility of reviving the metals of the earths, in all instances, where it was forced out of the jet and came in contact with the fused body;" while, on the other hand, oil aids the reduction.

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* *Synopsis Nosologiæ, or Outline of a New System of Nosology, &c.* by T. Parkinson, M.D. 8vo. London, 1816.

† *Edin. Med. and Surg. Journ.* vol. iii. p. 98.

‡ *Tentamen Nosologicum*, by Whitlock Nicholl, M.D.—vide *Repository*, vol. vii. p. 177.

§ *A Physiological System of Nosology; with a corrected and simplified Nomenclature;* by J. Mason Good, F.R.S. 8vo. London, 1817.

Mr. F. Spilsbury of Worcester proposes to improve Professor Cumming's instrument, by placing a pipe of zigzag form instead of that which commonly communicates between the two cylinders, in order to prevent the minor explosions from forcing the oil back into the condensing cylinder.

Mr. Gray of Kelso, finding that the mixed gases contained in a metallic tube, with a diaphragm of double wire gauze in the centre, could be exploded at each end successively, is led to conclude that every danger in the blow-pipe may be prevented by adjusting wire gauze to the reservoir, or even to the pipe†. On this principle, Mr. Gray is not aware, that the greatest improvement on the instrument has been already devised by Dr. Clarke. It is the substitution of a fagot of capillary tubes, instead of a simple tube, for the passage of the mixed gases to the jet. Instead of the fagot of brass capillary tubes, which can scarcely be made small enough, Mr. Beale suggests the employment of cane, or any very porous wood; or a fagot of small steel wires, the spaces between the wires acting as so many capillary tubes‡.

We cannot help noticing in this place, the unsuccessful results obtained from the repetition of Dr. Clarke's experiments, as far as these regard the decomposition of the earths, at the laboratory of the Royal Institution. The earths and their salts were fused, and pure anhydrates constantly obtained, "which appeared as hard stony masses, but never exposing a true metallic surface with a clean file, or effervescing with water or dilute acids:" even with the aid of charcoal and other fluxes in the experiments made in the laboratory of the Institution, no reduction of the earths has been effected. The natural conclusion from these failures is, "that some impurities in the earths or the supports used, have caused appearances on which the idea of decomposition has been founded[*]."

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* Vide *Repository*, vol. vii. p. 22.

† *Annals of Philosophy*, vol. ix. p. 479.

‡ Ibid, p. 481. Mr. A. T. Thomson's professional and other engagements have prevented him from completing his blow-pipe. Vide *Repository*, vol. vii. p. 22.

As advancing the art of analysis, we may mention that M. Doebereiner has lately proposed the employment of the oxide of copper in the analysis of vegetable and animal substances, even in those cases in which chlorate of potass may be used[†].

Mr. Peschier of Geneva has ascertained, that benzoic acid, and the alkaline benzoates, "are very good and useful tests of the presence and quantity of iron contained in any solution, as they precipitate that metal readily and entirely[‡].

The facility of producing a *low temperature* by quickening the evaporation of fluids in vacuo, with substances calculated to absorb the exhaled moisture, has been very much increased by the discovery of Professor Leslie, that this quality resides in a high degree in porphyritic trap, when grossly pounded and moderately roasted. He found that in this state it will "absorb the fiftieth part of its weight of moisture before its absorbing power is diminished one half, and the twenty-fifth part of its weight before this power is reduced to one-fourth. When completely saturated with humidity, it may hold near a fifth part of its whole weight." He found from actual experiment, by putting a quantity of this powder into a saucer seven inches wide, placing about an inch and a half over it a shallow cup of porous earthen ware three inches in diameter, filled with water, and covering the whole with a low receiver, that when the air was exhausted from the receiver until the gauge stood at $\frac{8}{10}$ of an inch, the water in a few minutes was converted into ice. Garden mould, when roasted, produces nearly the same effect, and "is capable of freezing more than the sixth part of its weight of water." Professor Leslie proposes to institute a series of experiments on this subject with different compound earths[||].

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[*] *Journal of Science and the Arts,* vol. ii. p. 462.

[†] *Schweigger's Journal,* vol. xvii. p. 369. The Editors of the *Annales de Chimie et de Physique,* (vol. iv. p. 107.) refer to the *Ann. de Chim.* vol. xcv. p. 154, 184, 187, and vol. xcvi. p. 53, to shew that the proposition is not new: but they regard it as an admirable agent.

[‡] *Annals of Philos.* vol. ix. p. 162. Dr. Thomson mentions that Berzelius had proposed benzoic acid as a re-agent for iron, in 1806; and a set of experiments with benzoate of ammonia were made by Mr. Hessinger in 1810, which confirmed his suggestion. For a translation of Hessinger's paper, see *Phil. Mag.* vol. xl. p. 258.

[||] *Annals of Philosophy,* vol. ix. p. 412.

On the very interesting subject of *light* and *heat*, some very valuable observations have been made; and several facts at variance with the generally received opinions established.

The first which we have to mention was ascertained by Colonel Beaufoy, in a visit to the summit of Mount Blanc*. He found that the effect of a burning glass on paper, and on a piece of wood, at that height was greater than in the lower regions. The thermometer in the shade at the time was 38°.

M. Fourier has satisfactorily proved, that the intensity of the rays of radiant heat is not the same, but that it depends on the angle comprehended between the ray and the surface from which it passes, and is proportional to the sine of that angle.

Mr. Benedict Prevost has thrown out some new ideas regarding the cause of colour in bodies. He conceives as erroneous the ordinary opinion, that when light falls upon an opaque body, which appears coloured to our eye, red for example, the colour is owing to all the rays which compose the white rays being absorbed by the body, except the red, which are reflected; and, from a number of ingenious observations and experiments†, he concludes, that the rays of light passing from an opaque body, and by their impression on our eyes enabling us to assume that it is coloured, are not reflected, but radiated; and, with certain modifications or exceptions, the same is true of transparent bodies. When light, he observes, falls upon any body, part of the rays are reflected unaltered; but the remainder penetrate more or less into the interior of the body, where certain of the rays are retained, owing to their affinity for its substance, while the others radiated diverging from every point of its surface and constitute its colour—red for copper, yellow for gold, &c. If the rays which constitute the peculiar colour of any body were really reflected from its surface, the very oblique rays of this colour would be much more numerous than the perpendicular or little inclined rays, and images seen obliquely in mirrors would appear more coloured than those seen perpendicularly; which is not the fact.

When a piece of gold is illuminated by white light, a part penetrates, is decomposed, and all the rays retained, except the yellow, which are radiated; but when the yellow rays are isolated and fall upon gold, they do not penetrate the surface, but are reflected in the strict meaning of the term: thus the image of a piece of gold, seen in a mirror of gold, has a much deeper tint than the object itself.

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* This visit was made in August, 1787; but the account of it was published only in February last, in the *Annals of Philosophy*, vol. ix. p. 37.

† Vide *Annales de Chimie et Physique*, tome iv. p. 192.

"A plate of polished gold illuminated by the light of day, radiates, as has been already stated, the yellow rays, and reflects the white; but when the whole are received upon a second plate of the same metal, equally polished, the yellow light will be reflected by it: a part of the white will be decomposed, and furnish, by radiating, new yellow light, which, joined to the first, will augment its intensity, so that the image of the first plate given by the second will appear much deeper;" and so on, by multiplying the reflections, we at length obtain a very deep orange-red tint, which is probably the real colour of gold; for the natural colour of the metal is rendered paler by the white rays with which it mixed. It is on this account that a well-polished deep copper vessel exhibits a richer tone of colour in the inside than on the out—that a coloured velvet appears of a deeper colour than a silk of the same colour: and M. Prevost is of opinion that the shining of the eyes of cats and of other animals depends partly on the same cause*.

Sir H. Davy has instituted an investigation on flame of the most interesting character. In endeavouring to ascertain the effects of diminished atmospherical-pressure upon flame, he found, that by rarifying explosive mixtures in the receiver of the air pump, the point at which they lose the power of inflaming by the electric spark differs in various gases; the difference depending "on the heat required for the combustion of individual portions of the gas, and that given out by their combustion." Chlorine and hydrogen burn at a lower temperature than oxygen and hydrogen, and produce nearly as much heat, but can bear to be more rarified before losing their combustibility; "because, as the heat produced by inflammation diminishes with the rarety of the mixture, the quantity requisite for the inflammation of contiguous portions of oxygen and hydrogen is sooner lost than when chlorine and hydrogen are used. A mixture of the two last gases, when so rarified as not to explode by the electric spark, will inflame when considerably heated. Sir H. Davy has also proved, contrary to the results of M. Grotthius's experiments, that rarefaction by heat increases the combustibility of all gaseous mixtures. That the compression produced by flame is not the cause of continuous explosion, was proved by a mixture of hydro-phosphoric gas and oxygen, condensed into one-fourth of its original bulk, not inflaming, although a heat of 240° inflames such a mixture. By diluting explosive mixtures with other gases, the aptitude for inflammation of the mixtures was found to be according to the inverse ratio of the densities and capacities for heat of the elastic media. Those gases which require least heat for their combustion, bear the highest degree of dilution before their combustion is prevented.

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* Some particulars connected with this curious physiological fact, are thus described by M. Prevost. When a cat looks at a person seated near a table, on which a lighted candle is placed, so that the eyes of the animal, being in the shade, are illuminated by the light reflected from the surrounding objects, its eyes appear to the person like little-fire brands; but they cease to produce this effect if the person's hand be placed between the flame and the objects, which, from their situation, reflect their light upon the eyes of the cat. They shine again as soon as the hand is withdrawn. Should the observer be dressed in black, and have a white towel on his knee, the eyes of the cat will shine more brilliantly if the towel be folded up. The dilatation of the pupil of the cat's eyes, when in an obscure place, exposes a larger portion than is usually uncovered of the bottom of the eye.

Connected in some degree with these investigations are several ingenious experiments and observations on the flame of a candle by Mr. Porrett*. The only fact in the paper which we think necessary to be noticed by us is, that flame is not an opaque body.

The effect of temperature in altering the density of bodies, has been long well understood; but the point at which water acquires its greatest density, nevertheless still admits of a question. Mr. George Oswald Sym, by experimenting with a very ingenious instrument, has added his testimony in favour of the accuracy of the more general opinion, which places it at or near 40°.

A portion of an interesting investigation into the *Chemical Phenomena of Heat*, by Mr. J. B. Emmett, of Trinity College, Cambridge, has been published in the Annals of Philosophy, to which, as the paper does not admit of analysis, we must refer our readers[*].

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* *Annals of Philosophy*, vol. ix. p. 340. The following experiment he regards as decisive of this point. Three feet from a sheet of white paper on a wall, place a lighted spirit lamp, and close by its flame a piece of thin and clear glass; and, having placed a lighted candle nine feet behind the lamp, look at the sheet of paper. Two faint shadows will be seen on it, representing the flame of the lamp and the piece of glass; but that of the glass will be the deepest; hence the natural conclusion, that flame is less opaque than glass, from its intercepting less light.

Galvanism.—From a series of experiments on the effects of temperature on the galvanic action, M. Dessaignes has been led to form the following conclusions[†]. 1. That metals, the temperature of which is equal throughout, lose their electromotive property when that is very much raised or lowered. 2. In heating a homogenous body unequally, it acquires the power of exciting a prepared frog, in the same manner as two heterogenous bodies. 3. The electro-motive property of a metallic combination, for example zinc and silver, may be destroyed by heating the zinc only to a certain point, or by cooling the silver. 4. When the voltaic pile is exposed to a cold of 18°, or to a heat of 100°, all its effects cease, provided the temperature is uniform throughout its extent.

Metals and Earths.—We have very little to notice regarding these substances.

Platinum.—Mr. I. T. Cooper has ascertained several new facts regarding this metal. He obtained a hydrate of the metal, and calculating the equivalent of an atom of platinum to be 22·164, this hydrate must contain two atoms of the metal and one of water. It is unaltered by heat, until at the point of ignition, when it becomes incandescent and its particles approximate considerably; and in this state it may be hammered into a solid bar[‡]. Sir H. Davy has succeeded in forming a fulminating compound with platinum, by converting *sulphuret of platinum* into *sulphate of platinum* by nitrous acid; then adding ammonia in slight excess to the aqueous solution of this sulphate, boiling the precipitate formed in caustic potash, and after it is washed, drying it at 212°. It consists of platinum, 73·5; oxygen, 8·73; and ammonia with water, 17·50; in one hundred parts. It explodes when heated to 400°[§].

Copper.—Dr. Meissner has detected this metal in the ashes of a great number of plants[‖].

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[*] *Annals of Phil.*, vol. ix. p. 387. Some high authorities have placed it at 36°; while others conceive it to be at the freezing point.

[†] Vide *Journal de Physique*, 1816; and *Annales de Chimie et de Physique*, t. iii. p. 418.

[‡] *Journal of Science, &c.* vol. iii. p. 119.

[§] Ibid. p. 131.

[‖] *Schweigger*, vol. xvii. p. 340 and 436. He detects it by boiling the ashes after they have been well washed in hydro-chloric acid; then nearly saturating the solution with ammonia, so as to leave a very small excess of acid, and placing in it a plate of polished iron or zinc. In a few days the copper appears on the iron or zinc, if the ashes contained any of it.

Potassium.—The obtaining this metal with facility, is an object of some importance in a philosophical point of view. It can be effected by adding to one end of the curved gun-barrel usually employed, a tube of glass descending into an open vessel of mercury; which, by the pressure of the atmosphere, tends to maintain a pressure within equal to that of the atmosphere. An ounce of it was procured with this apparatus from four ounces of potash, by a French gentleman, at the laboratory of the Royal Institution*.

Thorina.—This name has been given to a new earth discovered by Berzelius in the gadolinite of Kararvet; and again found by him in analysing the deuto-fluate of cerium, and the double fluate of cerium and yttria of Finbo. It has a great analogy with *Zirconia*, but differs from it in crystallizing easily with sulphuric acid; in its precipitate from a muriatic solution, being bulky, semi-transparent, and gelatinous; instead of heavy, white, and opaque. In the citrates of it yielding a precipitate when the liquid is boiled; in being thrown down, from its solution in sulphuric acid by oxalate of ammonia; and in the sulphates and muriates in solution not being precipitated by sulphate of potash †.

ACIDS.—It is impossible to fix any limit to the increase of the acids, at least of such as have a ternary basis; every new combination of the elements, carbon, hydrogen, and oxygen, giving rise to new substances which possess acid properties, and display different affinities from the already known acids. In pursuing his investigations on flame, Sir H. Davy observed the formation of a new acid body during the combustion of æther. Mr. Faraday has continued the inquiry; and, according to him, oxygen, hydrogen, and charcoal may be considered as the elements of this acid, the charcoal appearing to be in very great proportion. "The peculiar character of this acid is the pungent irritating effect it produces on the eyes and nostrils; resembling that occasioned by the oxalic acid ‡."

Boric Acid.—One part of this acid in a crystallized state, and four parts of acidulous tartrate of potash, form a compound which dissolves readily in three quarters of its weight of cold water, and in one-half that quantity of boiling water. The mineral acids decompose it very imperfectly; but it is not at all affected by tartaric acid. M. Vogel, who has examined this compound, affirms, that no union takes place between the boric and the tartaric acids; for if equal parts of these two acids be mixed together and moistened with a little cold water, almost the whole of the tartaric acid is dissolved, while the boric remains untouched: and if boiling water be employed, the boric acid entirely separates on cooling. He regards it as a chemical combination of 0·80 of tartar, and 0·20 of boric acid*.

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* *Philosophical Magazine*, vol. xlix. p. 72.

† *Annals of Philosophy*, vol. ix. p. 452.

‡ Vide *Journal of Science and the Arts*, vol. iii. p. 77.

Succinic Acid.—Some years since Gehlen announced that he had discovered the presence of this acid in a decoction of amber. Bouillon la Grange, conceiving it would be interesting to verify this statement, instituted a series of experiments on the subject, which enabled him to conclude, that amber contains a free acid which dissolves with it in alcohol, but which cannot be separated from it by water; although it is possible that it might be obtained, by passing steam through melted amber, softened by a fat oil at the boiling point†.

Acetic Acid.—Doebereiner, by decomposing in a glass tube the acetate of copper mixed with the oxide of that metal, obtained results which enable him to regard the following as the components of this acid‡:

Oxygen.........	64·64	or	Hydro-carbon........	1.
Carbon..........	32·43		Carbonic acid.........	3.
Hydrogen......	2·94			
	100·00			

M. Baup proposes§ to procure this acid in its concentrated state, by distilling sixteen parts of crystallized acetate of lead; one part of oxide of manganese; and nine parts of concentrated sulphuric acid. He also suggests, that a mixture of one part of this acid, and eleven parts of distilled water, may be employed as a substitute for distilled vinegar; but M. M. Henry and Bajet assert, that this mixture has neither the taste nor the odour of distilled vinegar.

Malic Acid.—M. M. Bouillon la Grange and Vogel, have originated the opinion, that this acid is a combination of acetic acid, and a peculiar extractive matter||. They prove, that in distilling the greater part of the acid vegetable juices, the fluid which is obtained when saturated with barytes and heated with

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* Vide *Journal de Pharmacie,* vol. iii. p. 7.

† *Journal de Pharmacie,* vol. iii. p. 97.

‡ *Schweigger,* vol. xvii. p. 369; and *Annales de Chimie et de Physique,* t. iv. p. 107.

§ *Journal de Pharmacie,* t. iii. p. 563.

|| *Ann. de Chim. et de Phy.* t. iv. p. 403.

phosphoric acid, yields acetic acid. This is the case with the malic acid also, and they ascribe the precipitation it produces with acetate or nitrate of lead to an extractive matter, united with the acetic acid.

Gallic Acid.—In a substance resembling nut-galls, brought from China, Mr. Brande found:

Tannin and gallic acid	75
Resin	2
Woody fibre	23
	100

The tannin, which was of a brownish-yellow colour, was completely soluble in water and in alcohol of 0·820; it has an astringent taste, and precipitated per-oxide of iron black from acids. He did not succeed in separating it from the gallic acid.

Mr. Brande found, as Scheele had formerly done, that undecomposed gallic acid is obtained by distilling nut-galls.

Meconic Acid.—This is a peculiar acid, which Sertürner has detected in opium, and named meconic, from μηκον, a poppy*. We are unacquainted with his process for obtaining it.

Rheumic acid.—Some doubts regarding the mixture of this acid have been suggested by Mr. Donovan†. This gentleman discovered malic and sorbic acids in the stalks of rhubarb, and admitting, on the authority of Mr. Henderson, who discovered the new acid, citric acid also is present, he conceives the saturation of the acid juice with lime would yield malate, sorbate, and citrate of lime, which are insoluble salts; "and when this powder was acted on by sulphuric acid, the result was a mixture of sorbic, malic, and citric acids." Other acids, as acetic, nitric, and oxalic, are also evolved by the processes proposed by Mr. Henderson; and, with regard to the combination of the new acid with ammonia, in which state Mr. Henderson thinks it exists in the plant, Mr. Donovan observes, "that extractive matter and lime were presented to each other, and by the mutual action of these substances ammonia is always produced."

Prussic acid.— Mr. E. Davy‡, conceives he has ascertained the existence of this acid in bread made from new flour. When strong sulphuric acid was added to infusions of this bread evaporated to dryness, the odour of prussic acid was evolved on the gentle application of heat. Mr. A. T. Thomson thinks he has detected it in the recent juice of the Euphorbii.

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* Vide *Annals of Phil.* vol. ix. p. 486.

† Ibid. vol. ix. p. 103.

‡ *Philosophical Magazine*, vol. xlix. p. 161 and 173.

Formic acid.—Berzelius[*] has ascertained the composition of this acid to be,

Hydrogen	2·84
Carbon	32·40
Oxygen	64·76
	100·00

Neutral salts.—Every new acid necessarily produces new neutral salts: that which we have already noticed, as having been procured from ether, forms neutral compounds with the alkalies; and when these are decomposed by the common acids, the peculiar acid flies off.

Carbonate of Magnesia.—The effect of this substance in improving bread made of the new flour of last year, a great part of which had been made from grain which germinated either before being cut down, or whilst in the sheaf, has been recently pointed out by Mr. Edmund Davy. This chemist has since investigated the subject[‡], and ascertained that the carbonate acts chemically on the bread in the act of baking; one portion of it uniting with the acetic acid, which is then abundantly formed, if much new flour be employed, and the other remaining in its original state. The magnesia seems also to give to the new flour a greater capacity for water; but although the bulk and weight of the loaf is increased, yet the bread is more porous, and specifically lighter.

Borax and the Neutral Borates.—We have already mentioned Vogel's remarks on the action of boracic acid in cream of tartar. He has examined also the nature of the action of borax, the neutral borates upon the acidulous tartrates of potash and of soda[§]. When six parts of acidulous tartrate of

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[*] *Annals of Phil.* vol. ix. p. 107. The author observes in the sequel of his paper, the comparison of the composition of the following acids is curious enough:—

Oxalic acid	3	+	2	+	1
Formic acid	3	+	2	+	2
Succinic acid	3	+	4	+	4
Acetic acid	3	+	4	+	6
Gallic acid	3	+	6	+	6
Benzoic acid	3	+	15	+	12

[‡] Vide *Phil. Magazine,* vol. xlix. p. 161-173. The quantity of the subcarbonate of magnesia, which produces the best bread, is about thirty grains for every pound of flour employed.

[§] The Memoir from which we quote was read to the Royal Academy of Sciences at Munich, on the 10th of January, 1817.—Vide *Journ. de Pharmacie,* vol. iii. p. 1.

potash and two of borax are boiled in sixteen parts of water for five minutes, the whole is dissolved, a little tartrate of lime only, which cream of tartar always contains, remaining in the bottom of the vessel. The salt obtained by evaporating this solution to dryness is deliquescent; it dissolves in its own weight of water at 54°. 5'. Fah. and in half its weight of boiling water: but this last is of the consistence of syrup. The solution is imperfectly decomposed by the sulphuric, nitric, and muriatic acids; but no cream of tartar is regenerated: hence M. Vogel regards this salt as a chemical combination of the tartrate and the borate of soda. The neutral borates act on the acidulous tartrate in the same manner as borax.

Acetate of Potash.—M. Baup has proposed the preparation of this salt by saturating a solution of the subcarbonate of potash in distilled water with the concentrated acetic acid. This process is not new. It furnishes a very white, well neutralized salt[*].

Æther.—M. Deslauriers has deduced the following results from a variety of experiments made by him on the preparation of sulphuric ether[†]. 1°. That two parts of alcohol at 38° are necessary for exhausting one part of acid at 66°, which is then diluted with one fourth of water; 2°. that the acid thus exhausted is no longer fit for producing ether, and that it, besides, retains a fourth part of ether in intimate union; 3°. that the time of discontinuing to add the alcohol, is when the products mark only 45°; 4°. and that the operation should be stopped as soon as a little water appears in the products, forming two layers in the receiver; for, beyond this point, the ether which is obtained is not free from sweet oil, a circumstance which ought to be avoided; 5°. that this oil is never produced by the immediate decomposition of the alcohol, but always after this has been reduced by the action of the acid on the elements of the ether; 6°. thence the residue of the retort is composed of 12 parts of acid, 3 of ether, and 3 of water, when the process has been continued to, and stopped at, the proper periods.

Oils.—M. Colin, in prosecuting some experiments on the fabrication of hard soaps[‡], ascertained that the simultaneous action of the air and aqueous vapour carries off the smell of oils, and whitens them. It also divides them into two parts; one of which very readily saponifies, whilst the other is scarcely capable of that process; but for this purpose it is requisite that the oils be previously treated with sulphuric acid, or be exposed to a very low temperature. He also found that the fluid part of oils may be obtained in a pure state by a careful saponification.

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[*] *Journal de Pharmacie*, vol. iii. p. 565.

[†] *Journ. de Pharmacie*, &c. Nov. 1816. p. 481.

[‡] *Annales de Chimie*, &c. tome iii. p. 22.

Soap.—M. Colin has confirmed the opinion that water is absolutely necessary in the formation of soaps; for even lime will not combine with oils without that intermedium *.

MINERAL WATERS.—The improved state of chemical analysis has rendered it necessary to re-examine many of these waters. Thus M. Gimbernat has ascertained that the gas contained in those of Baden is not carbonic acid, as has been generally believed, but azote.

Various analyses have been made of the Cheltenham waters; but, owing to the number of new wells opened in the establishment of Mr. Thompson, a new inquiry was wanted: and, from the character of the chemists, Mr. Brande and Mr. Parke, who have published the following analyses, we do not hesitate to regard them as the most correct that have yet appeared†.

"No. 1. The *strong chalybeate saline water;* the specific gravity of which is = 1·0092. One wine pint contains 74 grains of dry salts, consisting of

Muriate of soda................	41·3	grains
Sulphate of soda...	22·7	
Sulphate of magnesia.........	6·0	
Sulphate of lime................	2·5	
Carbonate of soda and iron...	1.5	
	74·0	

The pint yields about 2·5 cubic inches of carbonic acid gas.

"No. 2. The *strong sulphuretted saline water.* Its specific gravity, after the evaporation of the gases, = 1008·5. One pint affords 64 grains of dry salts, containing

Muriate of soda................	35·0	grains
Sulphate of soda........... ...	23·5	
Sulphate of magnesia.........	5·0	
Sulphate of lime..............	1·2	
Oxide of iron...................	·3	
	64·0	

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* *Annales de Chimie, &c.* tome iii. p. 23.

† The paper from which these analyses have been copied, contains an excellent account of Mr. Thompson's laboratory and manufactory. Vide *Journal of Science and the Arts,* vol. iii. p. 54.

Gaseous contents:

Sulphuretted hydrogen......	2·5	cubic inches
Carbonic acid.................	1·5	
	4·0	

This water has the fœtid odour of sulphuretted hydrogen. It renders tincture of galls slightly black.

"No. 3. The *weak sulphuretted saline water.* Specific gravity, after the loss of its gaseous contents, = 1006. A pint affords 36 grains of dry salts, consisting of

Muriate of soda...............	15·0	grains
Sulphate of soda.........	14·0	
Sulphate of magnesia.........	5·0	
Sulphate of lime..............	1.5	
Oxide of iron.................	·5	
	36·0	

Gaseous contents:

Sulphuretted hydrogen......	2·5	cubic inches
Carbonic acid........:	1·5	
	4·0	

"No. 4. The *pure saline water;* specific gravity = 1010. One pint affords 80·5 grains of dry salt, composed of

Muriate of soda...	50·0	grains
Sulphate of soda...	15·0	
Sulphate of magnesia.........	11·0	
Sulphate of lime.	4·5	
	80·0	

"No. 5. *Sulphuretted and chalybeated magnesian spring, or bitter saline water;* specific gravity, after the loss of the gaseous matters, = 1008.

Sulphate of magnesia......	36·5	grains
Muriate of magnesia..........	9·0	
Sulphate of soda...............	9·5	
Sulphate of lime...............	3·5	
Oxide of iron..................	0·5	
Loss............................	1·0	
	60·0	

Gaseous contents:

Sulphuretted hydrogen......	1·5	cubic inches
Carbonic acid.................	4·0	
	5·5	

"No. 6. *Saline chalybeate,* drawn from the well near the laboratory. Specific gravity, after the loss of the carbonic acid, = 1004. One pint affords 34 grains of dry salt, containing

Muriate of soda	22·0
Sulphate of soda	10·0
Oxide of iron	1·5
Loss	0·5
	34·0

The carbonic acid is about 10 cubic inches."

The effects produced by the baths of Mont d'Or, which are much resorted to, have been investigated by M. Bertrand. He found that there are—1. a constant temperature of 43° centig. 2. a considerable portion of carbonic acid in solution, both in the atmosphere and in the water; and, 3. an atmosphere generally hot, always humid, even when quite transparent; and at times stagnant. In general, patients can remain from fifteen to eighteen minutes in the bath without inconvenience; but sometimes they cannot remain longer than seven or eight minutes without danger. On entering them, also, they feel a burning heat, and sense of suffocation; the pulse becomes much quickened, and the face becomes turgid and covered with sweat. At these times, on entering even the hall of the baths, respiration is impeded and much uneasiness experienced. M. Bertrand attributes these effects to the electrical condition of the baths; but the Reporters of the French Institute, to whom his paper was submitted, ascribe them, with greater probability, to the carbonic acid being more copiously extricated at one time than another; and this opinion is probable, as the effects are felt only when the head is plunged in the vapour, or the stratum of air it occupies*.

At Oldesloe, between Hamburgh and Lubeck, two mineral springs have lately been brought into notice†. The first is a saline sulphureous spring, and, according to Dr. Pfaff's analysis, contains, in three pounds of water, the following solid ingredients:

Muriate of soda	310·0	grains
Muriate of magnesia	8·5	
Muriate of lime	2·	
Carbonate of lime	8·5	
Sulphate of lime	2·2	
Carbonic acid oxyd of iron	0·5	

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* *Annales de Chimie et de Physique,* tome iv. p. 207.

† *Continental Medical Repertory,* No. 1. p. 123.

Besides which, the gaseous contents in 100 cubic inches, are,

Carbonic acid gas	11·6 cubic inches
Sulphuretted hydrogen gas	1·4

The temperature is 9° Reaum.

The second is a simple saline spring. Three pounds of the water were found to contain,

Muriate of soda	70·5 grains
Muriate of lime	6
Muriate of magnesia	3
Carbonate of lime	4
Carbonate of magnesia	3
Gypsum	1
Oxyd of iron	a trifle.

VEGETABLE CHEMISTRY.

From the progress of this branch of chemical science, much may be anticipated, although little has been done within the period our Report embraces.

Rice.—M. Henri Braconnet has completed an analysis of this grain*. The following is the result of his experiments on the variety cultivated in Carolina, and that in Piedmont.

	Carolina Rice.	Piedmont Rice.
Water	5·00 grammes.	7·00 gram.
Starch	85.07	83·80
Parenchyma	4·80	4·80
Vegeto-animal matter	3·60	3·60
Incrystallizable sugar	0·29	0·05
Gummy matter, having some affinity to starch	0·71	0·10
Oil	0·13	0·25
Phosphate of lime	0·40	0·40
	100·00	100·00

The presence of muriate of potash, phosphate of potash, acetic acid, a vegetable salt with a basis of lime, another with a basis of potash, and sulphur, were also indicated; but in unappreciable quantities.

This result does not strictly agree with that of Vogel, contained in an essay read in March last to the Royal Academy of Munich, *on the Cerealia;* in which the following are the principal results of his experiments:

1°. The flour of common wheat, triticum *hybernum*, is composed of

Fecula	6·8
Gluten	2·4
Saccharine gum	5
Vegetable albumen	1·50

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* *Annales de Chimie et de Physique,* vol. iv. p. 470.

That of triticum *spelta*, contains,

Fecula	74
Gluten, (undried)*	22
Saccharine gum	8·50
Vegetable albumen	·50

2°. Oat flour contains,

Fecula	59
Albumen	4·30
Gum	3·50
Sugar and bitter principle	8·25
Fat oil	2
Fibrous matter	

3°. Rice flour yields,

Fecula	96
Sugar	1
Fat oil	1·50
Albumen	0·20

Ergot.—We have already transferred to our pages Vauquelin's analysis of this morbid production of the rye, to which we must refer[†]. M. Virey conceives, with great probability, that it is to the acrid matter and the putrescent animal matter contained in the ergot, that we must refer the poisonous properties of this production.

Datisca Cannabina.—Braconnet[‡] has ascertained, that this plant yields a peculiar vegetable principle, which resembles *inulin* in some respects, but possesses peculiar properties sufficient to distinguish it from that substance. It is obtained by evaporating, in a moderate temperature, a decoction of the datisca, and allowing it to remain at rest, until a granular crystalline precipitate is formed, which is the principle in question. It is of a yellow colour, and communicates its colour permanently to silk and wool[§]. It is soluble in boiling water and boiling alcohol; but is not, like inulin, precipitated by water of barytes. It dissolves in a weak solution of potass or of barytes, from which it is precipitated unchanged by an acid. Concentrated sulphuric acid, aided by heat, dissolves it unaltered; but it is precipitated by the addition of water, which is not the case with

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[*] In drying the albumen, 9·50 of the product should be deducted.

[†] Vide *Repository*, vol. vii. p. 339.

[‡] *Annales de Chimie, &c.* t. iii. p. 277.

[§] Braconnot observes, "that, if the wood be prepared with alum, the colour is very lively and intense; and rejects the action both of the air and the light."

the solution of inulin in that acid. Iode forms with it a yellow compound soluble in cold water. Its concentrated solution in lime water is not precipitated by nut-galls; but that of inulin is thrown down in glutinous elastic form.

Narcissus Pseudo-Narcissus.—M. Caventou[*] has ascertained, that 100 parts of the flowers of this species of Narcissus contain:

Odorous fatty matter	6
Yellow colouring matter	44
Gum	24
Vegetable fibre	26
	100

Potatoe.—Owing to the very extensive employment of the potatoe as an article of food, its nutritive qualities have been over-rated. According to a recent analysis of Cadet de Vaux, 100 lbs contain:

Amylaceous fecula	16lbs.
Parynchyma	9
Water of vegetation	75
	100[†]

Tannin.—M. Cadet, in an Essay on Astringent Vegetables[‡], has given the following comparative table of the quantity of tannate of gelatine precipitated from decoctions of the plants enumerated[§]. The quantity of each operated upon, was fifty grammes, and the desiccation and division were brought as nearly as possible to the same point in all.

	Grammes.	Decigr.
Gall-nuts	43	0
Tormentil root	25	0
Cornus *sanguinea*, of Canada	22	0
Bark of the alder	18	0
——— apricot	16	0

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[*] *Journal de Pharmacie*, vol. iii. p. 545.

[†] Ibid, vol. iii. p. 34. [‡] Ibid, vol. iii. p. 104.

[§] As it was, in many instances, difficult to collect the precipitates, M. Cadet employed the following method: When the solutions, after the addition of the gelatine, did not clear, an excess of the gelatine was poured in; and, after agitation, a concentrated solution of caustic soda was gradually added; which, dissolving the precipitates, rendered the solution transparent. On saturating the soda with weak sulphuric acid, the precipitate re-appeared, coagulated, and was easily collected on the filter. It exhibited all the properties of tannate of gelatine.

Bark of the	pomegranate	16	0
———	oak	12	5
———	cherry-tree	12	0
———	cornus *mascula*	9	5
———	maple (de Sir Wager)	8	0
———	weeping willow	8	0
———	coriaria *myrtifolia*	6	5
———	Virginian sumac	5	0
———	holm oak	5	0
———	common service	4	0
———	American chesnut	4	0
———	horse chesnut	3	0
———	æsculus *pavia*	3	0
———	Canadian sumac	3	0

These results, although intended by M. Cadet for the manufacturer, should not be overlooked by the medical practitioner.

Resin.—Mr. Daniel has published * an analysis of a resin, which is new in this country, but is employed in India as a varnish, without any preparation, and hence may become a valuable acquisition, if brought home in quantity. It was in a concrete state when he got it; slightly translucent, of a very pale green colour, and having a lustre between that of resin and wax. It was tasteless, inodorous, and pulverulent; but, when burnt, deposited much carbonaceous matter, and emitted a pleasant aromatic smell. The mean of three analyses, one by ether, and the other two by alcohol, gave the following results:—

Extractive matter soluble in water	0.4
Resin soluble in alcohol and ether	62·6
Resin insoluble in alcohol and ether	37·0
	100·0

Cinchona.—M. Laubert has continued his chemical analysis of the Peruvian bark. As we intend to present our readers with a translation of his additional essay, we shall here only mention the general results. He concludes that the green matter extracted from the loxa bark by ether is probably an essential oil; but it is not yet well understood. From the yellow bark, Calisaya, he has procured a kind of yellow balsam, which furnishes a crystallizable resinous matter; and he has also obtained from the alcoholic tincture of the same bark a colouring matter, which he regards as a species of extractive or rather of tannin†.

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* '*Journal of Science and the Arts*,' vol. iii. 115.

† *Journ. de Pharm.* p. 193.

Opium.—Dr. Gilbert of Leipzig informed us*, that M. Sartürner had discovered the principle that constitutes the characteristic constituent of opium, in a saline substance which he extracted from it, and to which he has given the name of *morphium*†. It appears, that by pouring into an infusion of opium, made with water acidulated with acetic acid, ammonia in excess, morphium is immediately precipitated, coloured with extractive matter, from which, however, it can be cleared by agitating it with a little alcohol. When pure it is colourless, sparingly soluble in boiling water, but very soluble in alcohol and ether, melting in a gentle heat, and assuming the appearance of melted sulphur; but crystallizing as it cools. It burns easily; and when heated in close vessels, leaves a solid resinous black matter, having a peculiar smell. The solution is bitter, gives a brown colour to turmeric paper, and restores the hue of litmus paper reddened with vinegar. Morphium crystallized from its solution is obtained in form of an acute four-sided pyramid, the base of which is either a square or a right angle. It readily combines with the different acids, forming a new set of neutral salts. The *subcarbonate* is crystallizable, but more soluble than morphium. The *carbonate* crystallizes in short prisms: the *acetate* in very soluble soft prisms; the *sulphate* in a shape like twigs of trees, and is very soluble; and the *muriate* assumes a plumose aspect, and is less soluble than any of the other salts; but by evaporating the solution too far, a shining, silvery, white plumose saline mass is obtained. Nitrate of morphium is in prisms, grouped as if proceeding from a centre. The tartrate also crystallizes in prisms. Morphium acts with great energy, and even violence, on the animal œconomy, in doses of 1½ grain to adults.

Sartürner has ascertained that the salt which Derosne regarded as the narcotic principle is a *meconiate* ‡ of morphium.

ANIMAL CHEMISTRY.

Contrary to the generally received opinion, it is probable, from the result of some experiments detailed by M. Gay Lussac||, that muscular fibre is not converted into fat by the long continued action of water; but that, when a portion of flesh is exposed to this agent, the muscular fibre, strictly speaking, in consequence of the putrefactive process which it undergoes, is dissolved in the water, and leaves the fat which is insoluble. This opinion is also supported by M. Chevruel.

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* *Repository*, vol. vii. p. 347.

† *Annals of Philosophy*, vol. ix. p. 485.

‡ *Repository*, vol. viii. p. [illegible].

|| *Annales de Chimie et de Physique*, tome iv. p. 71.

Carbon.—In the translation of Doebereiner's Observations on this subject, which will be found under the head of Foreign Medical Science and Literature, in our February Number[*], it is rendered probable, that there are three combinations of carbon with azote.

1. Animal charcoal......	6 vol. of vapour of carbon. 1 vol. of azote.
2. Azoture of carbon....	6 vol. of vapour of carbon. 2 vol. of azote.
3. Cyanogen.............	6 vol. of vapour of carbon. 3 vol. of azote.

Intestinal gases.—Vauquelin having examined the air found in the abdomen of an elephant, who lately died at the Museum of Natural History in Paris, found it to contain, besides azote and a small quantity of sulphuretted hydrogen, a gas resembling carbonated hydrogen gas, but differing from it in the proportions of its principles; the weight of the hydrogen being to that of the carbon as 5·5 is to 21·4. A litre of this gas weighed 45 centigrammes[†].

Glandular calculus.—In the maxiliary glands of the same elephant several white calculi were found; some crystallized in regular tetrahedrons, others of an oblong form, and having a grain of oats as a nucleus, and some without any regular form, but, like the others, breaking with a lamellar fracture. Vauquelin, who examined the chemical properties of these concretions, found them to be composed chiefly of carbonate of lime, some phosphtate of lime, and an animal matter[‡].

Calculus found in the vagina.—From our analysis of a calculus found in the vagina of a girl, it is evident that calculi may form in different parts of the body, closely resembling one species of urinary calculus. That to which we refer consisted of *phosphate of ammonia*, *phosphate of magnesia*, *phosphate of lime*, and a considerable portion of *animal matter;* but no *uric acid*, or at least an unappreciable portion[§].

In closing this portion of our subject, we may notice the publication of the Elementary Treatise of M. Thenard[||], which, although not published exactly within the period our present Report embraces, is yet scarcely known in this country. For an admirable criticism on the merits of this work, we refer our readers to the Journal of Science and the Arts, (vol. vii. p. 255.)

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[*] Vide *Repository*, vol. vii. p. 165.

[†] *Journal de Pharm.* vol. iii. p. 205.

[‡] Ibid, p. 208.

[§] *Repository*, vol. vii. p. 111.

[||] *Traité de Chimie, Elémentaire, Théorique, et Pratique,* L. J. Thenard, &c. &c. 4 tomes, Paris, 1813, 1814, 1815, 1816.

NATURAL HISTORY.

One of the most interesting works on Natural History which has appeared for many years, has been lately published by M. Cuvier, intitled, "*Mémoires pour servir à l'Histoire et l'Anatomie des Mollusques*[*]." The volume contains twenty-two memoirs. He first details the history and anatomy of the *cephalopodes*, (*sepia* of Linnæus). The peculiar black substance, or ink, with which this class is furnished by Nature, as an instrument of defence, is shewn by Cuvier to be differently situated in the different species of the genus. In the common cuttle fish, le poulpe commun (Sep. *octopodia* L.) it is contained in a sac, incased in the liver, a circumstance which misled Monro to regard it as the bile of this animal; but in S. *officinalis*, in which it is blacker, the sac containing it, which is situated in the abdomen, before the testice and the ovarium, is much larger than in the octopodia, and discharges its contents into the rectum by a large excretory duct, opening near the rectum; and in the S. *loligo*, the sac is suspended before the liver, but not incased in it. The anatomy of the eye, which is the most remarkable part of the organization of the cuttle fish, is minutely described by M. Cuvier. It has no anterior chamber, nor transparent cornea, the crystalline being in immediate contact with the conjunctiva. It has three coats; 1. an external or sclerotic, which is somewhat cartilaginous, and terminates before at the edge of the crystalline, forming an immoveable pupil; 2. a second, which may be regarded as a retina, opake and white, formed by the coalescing of nervous filaments, which traverse the former, and terminate by a plaited circle in minute rays of the greatest beauty, forming a kind of ciliary process; and, 3. a very delicate deep violet brown membrane, which may be regarded rather as a coat of varnish, analogous to that covering the choroid in man, than as a real membrane; but there is no true choroid in the cuttle fish. At the back of the globe of the eye is a sac containing some glandular bodies, and the optic ganglion, which is, in point of size, equal to that of the brain of the animal, to which it is attached by a short thick fillet, which protrudes through a hole at the bottom of the orbit.

M. Cuvier regards the *Cephalopodes* as beings completely insulated in the scale of animals.

The second memoir is on the Clio *borealis*; the third on the

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[*] *Memoires*, &c. par M. le Chevalier Cuvier, Conseiller d'Etat Ordinaire, Secrétaire Perpétual de l'Académie des Sciences de l'Institut Royal, &c. 4to. pp. 498. avec 35 planches en taille-douce. Paris, 1817.

Hyale; and the fourth treats of the *Tritonia hambergii*, the description and anatomy of which is characterised by the most minute accuracy. The most remarkable circumstance in its organization is the simplicity of the nervous system, all the nerves passing from the brain in the form of rays to the various parts of the body, without the intervention of ganglions, plexi, or spinal marrow.

The fifth memoir is on the genus *Doris*, to which M. Cuvier has added several new species, and cleared the whole from the confusion in which it was left by Linnæus and succeeding naturalists. The dissection of five of the species, viz. D. *lacera*, *solea*, *scabra*, *tuberculata*, and *verrucosa*, are detailed; but we must refer our readers to the work itself for the details. The sixth memoir treats of the *Scyllæa*, *Eolides*, and *Glaucus*, three beautiful genera of the Molluscæ; with some additions to the memoir on the *Tritonia*: the subject of the seventh is the genus *Thethys*, and its anatomy; and the eighth contains some remarks on the *Phyllidea* and *Pleuro-branchus*, two new genera of Molluscæ of the order gasteropodes. The ninth memoir, besides detailing the anatomy of the genus *Aplysia*, contains several new facts regarding some of its species. This genus of Molluscæ gives out a violet coloured liquor, which Swammerdam asserted to proceed from a small sac connected with the organs of generation; an opinion which M. Cuvier has found to be a mistake. According to his observations, it is transuded from the pores of the skin; and, when collected and dried, has a beautiful deep tint, resembling the colour of the scabiosa *atropurpurea*; but no acrid quality, such as it is believed to possess by the vulgar.

The tenth essay treats of the *Aceres*, or gasteropodes, without apparent feelers: and the eleventh, of snails, the *Limax* and *Helix* of Linnæus. We would willingly, did our limits permit, make some extracts from this Essay, which contains many interesting remarks. We can only, however, notice a few particulars regarding the interior organs of sense of the limaces. "The ear does not exist in this family, no appearance of the organ, either interiorly or exteriorly, being perceptible. The sense of smell appears to be very delicate, as may be perceived by the promptitude with which the animals leave the shell when placed close to plants they are fond of, and the odour of which only can attract them; but it is difficult to determine the seat of this sense. Perhaps," says M. Cuvier, "it resides to a certain extent in the entire skin, which has much of the texture of a pituitary membrane." He conceives the sense of taste must be feeble, as the tongue is nearly cartilaginous. But the most singular faculty of these molluscæ, is the power they possess of re-producing the feelers and the head almost entire after amputation: a fact first observed by Spallanzani. The eleventh memoir is on the Testacella *haliotoidea*, and a new genus of Molluscæ, named *Parmacella*. The twelfth treats of the Anchidium *perenii*. The thirteenth of the Helix *stagnalis*, and *cornea* of Linnæus: and in the fourteenth, M. Cuvier closes his examination of the gasteropodes furnished with lungs, with the anatomical history of the *Ianthinæ* and *Phasianelle* of Lamarck. In the fifteenth memoir he examines the *Helix vivipara*, (Lin.) which presents many very striking singularities. M. Cuvier refutes the opinion of Spallanzani, that this animal is a true hermaphrodite, and capable of fecundating itself; and points out the characters of the two sexes. The uterus of the female in spring is full of the young in their shells, and at the same time globules of a glary matter, which, when examined by a magnifier, appear to contain in their centre a very small animal, with the first rudiments only of the shell. As these globules coagulate like albumen when spirit of wine is added to them, Cuvier concludes that this animal is ovo-viviparous like the viper. The sixteenth memoir gives the anatomy of the Buccinum *undatum*, (Lin.); and the seventeenth that of the Pectinibrancheates, which have not turbinated shells: and in which no separation of sex can be perceived. In these our author has never discovered any other generative organs than an ovarium more or less developed; but he has remarked some glandular parts entering into the composition of this organ, which he thinks may be regarded as serving for the secretion of the fecundating sperm. The eighteenth memoir describes the organization of the *Thalia*, (Brown), and *Salpa*, (Forskaohl). The nineteenth, that of the *Ascidiæ*; the twentieth treats of the *Lingula anatina*, (Lam.), a singular species of bivalve; and the twenty-first of the genus *Lepas*, (Lin.), the members of which differ from all the other molluscæ, in being furnished with numerous, horny, articulated members, susceptible of motion, with a mouth furnished with lips and jaws, and a nervous system formed of a series of ganglions. The volume is concluded with a critical Dissertation on the different species of cray fish, known to the ancients, and the names which they gave them.

A new genus of vermes, distinguished by the name of *Amphiro*, has been described by Dr. Leach, from the manuscripts of the late Colonel Montague. It contains five British species. They are all inhabitants of the sea, have long tentaculæ, organs of respiration, and organs approximating to feet.

Polypes.—The circumstance of the production of perfect polypes from cuttings of a polype, naturally attracted the attention of philosophers, who were led to consider the fact similar to the slipping of a plant, and thence regarded the polype as the uniting link in the chain of beings, between the vegetable and the animal kingdoms. This idea, however, has lately been regarded as liable to two objections; first, that, as in the animal frame a complete organization runs through the whole being, and is intimately connected with the will or mind of the animal, when a part is cut off, its animal functions are destroyed, because it no longer possesses this completed organization; and, secondly, with regard to vegetables, "it is only when they are cut agreeably to certain rules, that we can depend on an increase of plants." On these grounds Mr. John Bywater has suggested the idea* that a polype is a portion "of mucilaginous matter," in which a great number of smaller animalcules reside; and that these have the power "of shaping the mucilaginous masses, derived from decaying vegetables and their own secretions, into such forms as to be able to move them by their aggregate force for all the purposes of pleasure and existence." The dark spots with which a polype appears studded, when highly magnified, he regards as "small groups, or single animalcules." This suggestion is certainly highly ingenious; but it is liable to several objections. In the first place, various parts of the polype, its feelers for example, appear intended to be altogether subservient to the other parts of the animal, as constituting a whole; but we can scarcely conceive such a universal consent to be obtained throughout a community of animalcules, as will secure the actions of all the parts in so perfect a manner as if the whole were moved by the same will. In the second place, when a polype is cut in pieces, the perfect animals produced from these would require, on Mr. Bywater's principle, a quick generation of animalcules to make up the new parts; but it is not easy to suppose that the generative powers of the animalcules would be left to be called into action merely by accidental circumstances: and, lastly, Mr. Bywater is not correct in his assertion that all vegetables require to be cut according to certain rules, to secure an increase of plants.

Cicada *mannaferens*. — Several specimens of this curious locust, from New South Wales, were lately presented to the Bath Literary and Philosophical Society, with some of the manna they deposit on the Eucalyptus†. The late Colonel Patterson first observed this insect in the pupa state in November 1800. After leaving its covering, it rapidly enlarges, and in a few hours gains strength enough to fly to the height of sixty or seventy feet. The notes of the male and female, when sounded together, exactly resemble the noise of grinding knives or razors; and hence the insect is popularly called the razor-grinder. The eggs of this Cicada are deposited in the ground in January; the larva is perfect in September, when it is formed into the pupa, in which state it remains until November. The saccharine matter may be collected either in a liquid or a concrete state. It possesses, in some degree, the quality of manna; but has not been chemically examined.

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* *Philosophical Magazine*, vol. xlix. p. 283.

† Ibid. vol. xlix. p. 296. The specimens were presented by Mrs. Grose, the widow of the late Colonel Patterson.

Coccus *lacca.*—M. Latreille, conceiving that the facts relating to this insect, detailed by Kerr and Roxburgh, are in many respects incorrect, has endeavoured to correct their mistakes*. He places it amongst the cocci, or cochineal insects, because the female fixes herself permanently to the vegetable whence she extracts her nutriment, and dies on the same spot, her carcase covering the germ of her posterity. This species he denominates Coccus *ficus* or *lacca.* The female never acquires wings, and has a small proboscis, which proceeds from the anterior part of the chest, between the two fore claws. The male has no proboscis, but is provided with two wings, which lie horizontally upon the body. The antennæ of both sexes are composed of eleven joints, and terminated by two long diverging hairs. From the female of the Coccus *lacca,* a resinous matter exudes, chiefly from the sides of her body; and by accumulating, forms a crust over the insects, who are generally crowded together, side by side. When separated from the branch, this crust, which is the lac, is cellular, the cells being lined with a white matter, which appears to be the exuviæ of the ova of the insects. The lac is known in commerce under five different names, each indicating some particular modification of the substance: thus—1. *Stick-lac* is the crust adhering to the young branches in its natural state.—2. *Seed-lac* is obtained by separating the crust from the branches, reducing it to a gross powder; and extracting its colouring principle, after which, a hard, resinous, yellowish powder remains, somewhat resembling seeds of mustard.—3. *Shell-lac* is prepared by melting the seed-lac in a cotton bag over a charcoal fire, and then forcing it through, while it is fluid and receiving it upon the trunk of a Banana, so as to form it into thin plates; the resin, being the most fusible part of the lac, passes in a state of great purity.—4. *Lac-lake* is a preparation made with the resin-lac, which, besides the colouring matter, contains about one third of its weight of resin, one sixth of alum, and some earthy matter.—5. *Lac-dye* is an Indian preparation also, which contains scarcely so much resin as the lac-lake, and rather more colouring matter, with the same foreign ingredients. It is softened by hot water, but not dissolved by it.

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* *Annales de Chimie et de Physique.*

Ornithorinchus paradoxus.—A fact mentioned in a letter from Sir John Jamieson to Mr. Macleay, read lately at the Linnean Society, shews that the mechanism of the fang of venomous serpents is not peculiar to that class of reptiles; the spur of the Ornithorincus paradoxus being a hollow organ of the same kind, and intended, like the serpent's fang, for ejecting the venom secreted beneath it into any wound which it may inflict. The game-keeper of Sir John, having slightly wounded one of these animals, one of its spurs run into his hand. In a short time the arm swelled, his jaw became fixed, and he exhibited every symptom of a person bitten by a venomous serpent. The symptoms gradually yielded to the external application of oil, and the internal administration of ammonia*.

Among the works which have recently appeared on Natural History, we may mention a Catalogue of British Birds, by Dr. Leach, of the British Museum, the most correct that has yet been published; another Catalogue of 293 Species, by Mr. Edward Forster, jun.†; and Lamark's work, *Histoire Naturelle des Animaux sans Vertèbres*, which, although published last year in Paris, is yet scarcely known in this country.

BOTANY.

There is much satisfaction in perceiving the ardour with which *phytological* inquiries are pursued; and although there is much of hypothesis blended with the explanations of the vegetable functions that have hitherto been made public, yet the doubts which these raise, and the investigations to which they lead, are likely ultimately to illumine with the beams of truth this interesting branch of natural knowledge. The opinion of Mr. Knight, that gravity is the cause of the downward growth of the roots of plants, which we noticed on a former occasion, and the attack made upon it by Mr. Keith, has been spiritedly defended by its author in a paper read before the Linnean Society; but we shall defer giving any account of this defence until it be published.

The cause of the ascent of the sap in trees, is a point in Phytology that yet remains undetermined. Mr. Knight endeavoured to explain it by the action of what is termed the silver grain of the wood; and some experiments, which he has recently made on the expansion of the wood of trees in different directions, have confirmed him in this opinion. The principal circumstance observed in these experiments was, that, in sawing a horizontal section of a tree, from the bark to the pith, it expands so much as to prevent the action of the saw; but if the saw be made to work in a direction to cut across the silver grain, instead of merely separating them, it will continue to act freely, as no expansion takes place. Admitting the accuracy of these experiments, and the expansion of the silver grain, we cannot admit the application of the fact as accounting for the ascent of the sap. In all experiments of this kind, the important truth that plants are living beings seems to be overlooked. If the silver grain retains its action when a tree is sawed into planks, it would, were the hypothesis of its action being the cause of the ascent of the sap admissible, operate also when a tree withers, and still carry up the sap to its extreme branches; which we know is not the fact.

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* *Repository,* vol. vii. p. 435.

† *Catalogus Avium in Insulis Britannicis habitantium, curâ et studio Edwardi Forsteri, jun.*

The effects of vegetation on the atmosphere has long attracted the attention of phytologists. Among others, M. Saussure made many experiments on the subject, and was led to conclude, that the leaves and green parts of plants decompose the carbonic acid contained in the atmosphere, assimilating the carbon into their proper substance, and emitting the greater part of the oxygen in the form of gas. The accuracy of this observation of Saussure has been lately called in question by M. Ruhland*, who has endeavoured to prove, that plants do not decompose carbonic acid; and are incapable of producing such an effect; for as the oxygen is instantaneously extricated on exposure to the sun, "the decomposition," he remarks, "of the carbonic acid would be effected with a rapidity which could scarcely be equalled in a furnace heated to the highest degree." The emission, therefore, of more oxygen when a plant is exposed to sun-shine, in an atmosphere containing a small proportion, $\frac{1}{12}$ for example, of carbonic acid, than when it is exposed in an atmosphere containing none, is merely owing to the carbonic acid being favourable to the vegetation of the plant. He also affirms, that acids in general have the property of enabling plants, exposed to the sun, to give out a greater quantity of oxygen; and, to prove this opinion, he made a number of experiments, by exposing plants, (the leaves of sambucus nigra,) in vessels of water, containing acids in the proportion of one to 6000 of water, inverted over mercury, to the sun, for the space of five hours. The following table shews the results he obtained:

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* *Journal de Physique*, 1816; and *Annales de Chimie et de Phys.* tome iii. p. 411.

Nature of the Fluid.	*Inches of Air disengaged.*	*Purity of Air disengaged.*
Spring water...	4·7	0·47
Water, boiled during two hours..............	1·5	0·34
Water and sulphuric acid........................	7·0	0·31
——— muriatic acid.........................	20·6	0·73
——— $\frac{1}{2000}$ of muriatic acid...	17·0	0·70
Water boiled with nitric acid....	9·0	0·66
Water and muriatic acid in the shade.........	0·0	0·0
—— and nitric acid................................	17.3	0·65
—— and acetic acid	24·5	0·76
—— saturated with carbonic acid at 10°...	7·2	0·45
—— saturated with carbonic acid mixed with ¼ distilled water...	22·0	0·76
—— mixed with ¾ distilled water...	24·0	0·78
—— and ammonia................................	0·0	
Lime water....	0·0	
Water and carbonate of potass..........	0·0	
——— sal ammoniac..........	6·5	0·51
——— acetate of potash..................	5·5	0·30
——— nitre...	11·0	0·55
——— chlorure of sodium................	4·7	0·36
——— tartar.................	16·0	0·56
——— potash......................................	0·0	
——— alcohol..........................	1·2	0·21
——— chlorine.....................................	4·7	0·46
——— $\frac{1}{2000}$ of chlorine....	3·5	0·39

The Editor of the Annales de Chimie justly observes, on the results in the above table, that M. Ruhland has not ascertained how much is to be attributed to the action of the sun on the fluid itself, or what it would be on the fluid containing any other substance, such as silk or cotton, so as to determine what is justly due to the action of the plants.

The phosphorescent property of some plants have been noticed by various botanists; but the most remarkable account of this kind which we have read, is contained in a letter from A. T. Mornay, Esq. to Dr. Wollaston*. The plant, which displayed the phosphorescence we are about to mention, grows in Brasil, between Monte Santo and the river Bendegó, and is probably a species of Euphorbium. It is called in the country, *Cipó de Cunanam*; is a leafless climbing plant, and emits a very acrid white juice. "When I made a cut at the bush with my hanger," says Mr. Mornay, "in the dusk of the evening, the wounds inflicted, presented a beautiful luminous line, which was not transient, but lasted for several seconds, or a quarter of a minute." When the plant was bent so as to break the cuticle, the same appearance was observed at each crack; and the milky juice, as it dropped, appeared like drops of fire, or dropping inflamed tallow.

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* *Philosophical Magazine*, vol. xlviii. p. 422.

Ergot.—This is an elongated excrescence, which fills the place of the seed in the glume or husk of rye. De Candolle believed, that it was a small fungus belonging to the genus sclerotium, and arranged it under the specific name *clavus*. M. Teissier first combatted this opinion by observing, that he had seen "seeds, one-half of which was sound rye, and the other half ergot;" and M. Virey has asserted, that it is actually a morbid modification of the rye itself, an opinion at least highly probable.

On the subject of systematic and descriptive botany, the most interesting event we have to record, is the publication of a very learned and elegant history of the genus *Cassia*, from the pen of Dr. L. Th. Fred. Colladon, of Geneva*, both as regards the natural history and the medicinal properties of the different species. We can only notice a very few of his remarks respecting that species which yields the senna of our Materia Medica.

There are two varieties of senna known in Egypt, the Cassia *senna obovata*, and the Cassia *senna lanceolata*; and at Boulac, the great entrepôt of senna, not only are these varieties mixed together, but the leaves of the Cynanchum *oleæfolium*, which is there known by the name of argel or arguel, is also added. The proportions, according to Dr. Calloden, are 500 parts of the lance-leaved senna; 200 parts of obovate senna; and 200 parts of argel. Although the leaves of the argel resemble those of the senna, yet they can be distinguished by attention to the following circumstances: 1. The leaf of argel is an inch, or fourteen lines long; while the leafets of the senna scarcely ever exceed nine lines. 2. The leaf of argel has a straight side; and below, the lateral nerves are not seen; the senna leafet has the lateral nerves conspicuous on the under disk. 3. The leaf of argel is regular at its base; the two sides terminated at the same part of the petiole; the senna leafet is oblique, one of the sides being larger, and produced lower upon the petiole than the other. The druggists in Europe occasionally mixed the senna with the leafets of Colatea *arborescens*; but this is of little consequence, as these are purgative in nearly as great a degree as the senna leafets.

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[*] *Histoire Naturelle et Médicale des Casses, &c. &c.* par L. Th. Fred. Colladon, de Geneve, M.D. 4to. Planches, pp. 140. Montpelier, 1816.

We shall close this part of our Report, by simply adverting to the following investigations. An examination of the *Coniferous plants* of Kœmpfer, by R. A. Salisbury, Esq. F.L.S.[*]; a review of the *genus Amaryllis*, by J. Bellenden Kerr, Esq.[†]; and of the *genus Crinum*, by the same botanist[‡]; and some *extracts from a periodical miscellany, published in Spanish at Santa Fé de Bogotá, intitled*, "*El Semanario del Nuevo Reyno de Granada*[§]," 1810.

MATERIA MEDICA AND PHARMACY.

Unless the medicines, which are prescribed for the cure of diseases, be good and genuine of their kind, and unless the pharmacopolist who prepares them be correct and guided by chemical principles, it will be vain to expect advantages from their employment, or to rely upon the skill of the physician. In this point of view, the importance of improvements in Materia Medica and Pharmacy, is perfectly obvious, and ought to be acknowledged. Little, however, has yet been accomplished, although some chemical physiologists of high character have undertaken the investigation of detached parts of the subject. Thus M. M. Pelletier and Majendie have examined ipecacuanha, and, from the results of their experiments, have been led to draw the following conclusions:

1. That that root, as generally employed, contains a peculiar substance which they have denominated *emetine*, and on which the medicinal properties of the root depends. 2. That this substance is emetic; that it exerts a specific action upon the lungs and the mucous membrane of the intestinal canal, and that it is also narcotic. 3. That *emetine* may be employed in every instance in which the use of ipecacuanha is indicated, and with much more success, as the dose is determinate and its properties constant; and with the advantage also of being devoid both of odour and taste[||].

Preparation of Cinchona.—Mr. C. Johnson, one of the surgeons of the Lancaster Dispensary, has discovered, that the best method of preparing the infusion of cinchona bark, is, by using Count Rumford's coffee apparatus[¶]; on the strainer of which, the bark pounded and sifted through a wire sieve is placed, and boiling water poured upon it in successive portions. "When about a quart of water has been thus passed through an ounce of cinchona, it forms a beautiful clear solution of all that water can extract, and strongly exhibiting the sensible properties of cinchona." The stratum of bark should be of such a thickness, that the water may not pass either too slowly or too rapidly through it. Mr. Johnson states, that he has found "a strainer of two inches, three inches, and four inches diameter, most suitable for a half-ounce, one ounce, and two ounces of cinchona[*].

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[*] *Journal of Science and the Arts*, vol. ii. p. 309. [†] Ibid. p. 342.

[‡] Ibid. vol. iii. p. 102. [§] Ibid. vol. iii. p. 124.

[||] *Annales de Chimie, &c.* tome iv. p. 184. A translation of M. Robiquet's Report to the Institute on this Essay, shall appear in our next Number.

[¶] The apparatus employed by Mr. Johnson, was made by Edmund Lloyd and Co., 178, Strand. Count Rumford's description of his apparatus, is to be seen in the *Repertory of Arts* for April and May, 1813.

Colchicum Autumnale.—Sir E. Home has ascertained, that the sediment which an infusion of the colchicum lets fall, acts violently as a purgative; and therefore as the separation does not lessen the specific effect of the medicine in gout, he proposes to separate it, as the means of rendering the action of the remedy milder.

Nux Vomica.—This has been generally regarded as a medicine too dangerous for internal use; and writers on the Materia Medica, even Murray, having few authorities to guide them, and these not of the first rank, have given very erroneous accounts of its effects on the animal œconomy. It has lately been introduced in France as a remedy for partial paralysis, and a number of cases illustrative of its efficacy, have been published by Dr. Fouquier of the *Hospital de la Charité*[†]. It has been given in the form of powder and of an alcoholic extract, in gradually increased doses, until from thirty to fifty grains have been taken in a day. Its sensible effects are strong contractions in the muscles, which occur in general about half an hour or an hour after the dose has been taken; but if the dose be moderate, these transitory tetanic appearances happen in the paralytic parts only, the healthy limbs remaining unaffected; and occasionally, the only sensible effect of the medicine, is an unpleasant feeling of oppression, accompanied with a sense of heat, and increased sensibility in the affected parts. The appetite is improved by this remedy, while the bowels become rather confined. In some instances, and when the dose has not been well regulated, it has even excited a kind of delirium; and sometimes a general tetanic appearance, during which, the patient loses his speech and his power of swallowing, breathes oppressedly, has palpitation of the heart, passes his urine with great difficulty, and suffers the most distressing anxiety. These symptoms, however, subside in a short time; and he feels himself in possession of a greater power over the paralytic parts, which increases by degrees until he altogether recovers their use. The remedy is certainly one of great power, and worthy of being tried. In a chemical analysis of nux vomica, Mr. A. T. Thomson detected the presence of prussic acid. What influence would this exert in the production of its efficacy?

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[*] *Annals of Philosophy,* vol. ix. p. 452.

[†] *Bulletin de la Faculté de Medecine de Paris,* 1817, p. 272-362.

Manna.—This substance, which much more generally enters into formulæ on the Continent than on this side of the Channel, has lately been examined by M. Bouillon-la-Grange*. His experiments have led him to conclude, that it is composed of two substances; one of which is soluble in cold alcohol, and has some analogy to sugar; and the other, insoluble in cold alcohol, and yielding a very large quantity of mucous acid, when treated with nitric acid. If manna be dissolved in boiling alcohol, the solution deposits, on cooling, a light spongy, very white, crystallized mass, equal to about three-fourths of the manna employed. This is what M. Thenard has denominated *mannite.* Bouillon-la-Grange regards it as a pure manna.

Butter of Antimony.—The process for preparing this substance is tedious and uncertain. M. Robiquet has proposed the following method of procuring it very beautiful by direct combination†. Take one pint of nitric acid, four parts of muriatic acid, and one part of antimony (the pure metal); dissolve the antimony cautiously, and evaporate the solution in a close vessel to dryness; when the chlorine is dry, change the receiver, and continue the action of the heat until the chlorure or butter of antimony be obtained.

Magnesia.—This substance is frequently combined with lime; from which it may be freed by means either of the neutral carbonate of potash, as proposed by Bucholz, or of the subcarbonate of ammonia, as recommended by Doebereiner. For the method of employing either of these, we must refer our readers to our translation of the Report on Bucholz's paper‡.

We may conclude these few notices by observing that practitioners have lately become much disposed to throw aside altogether the employment of mercury in syphilis; and this affectation is not confined to our side of the Channel. M. Brien, a physician of Lyons, has lately published a translation of the work of Joseph Parta, which appeared in 1788§, recommending the use of opium as a direct anti-syphilitic; and has assigned as his motive the proofs which he himself has had of its extraordinary efficacy. The practice, however, after being put to the test of a three months experience in the *Hôpital des Veneriens* in Paris, has furnished the conclusion, that, although opium alone cannot be regarded as a specific in syphilis, yet, it is an admirable adjuvant; disposing the subject to receive the mercurial action, and repairing the injuries sustained by the system by a long continued course of mercury. The same may be said of nitro-muriatic acid, the advantages of both the external and internal administration of which are now very firmly established. Besides the remarks and summary of the practice of Dr. Scott*, a number of cases of the beneficial effects of this acid in syphilis, which had resisted the action of mercury, and in which the constitution had suffered from its exhibition, have been published by Mr. C. Bell†. We confess that, in our own practice, although we have found it of great benefit in ulcerations of the extremities of long standing, with a reduced state of habit, yet we have not observed any advantages to arise from it in cases of diseased biliary secretion, as observed by Dr. Scott.

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* *Journal de Pharmacie et de Physique,* vol. iii. p. 8.

† *Annales de Chimie et de Physique,* vol. iv. p. 166.

‡ *Repository,* vol. vii. p. 337.

§ *De la Vertu de l'Opium dans les Maladies Veneriennes, par Joseph Parta; traduit en Francais* par M. Brien, Médécin à Lyon. 1816.

THEORY AND PRACTICE OF MEDICINE.

Although *Fever* is one of the most common forms of disease in every quarter of the world, and the attention of the physician has necessarily been directed to it from the earliest periods of the history of the healing art, yet the opinions regarding its causes, and in many respects its treatment, are by no means settled. In Great Britain, and wherever British practitioners have been employed, the subject has been closely investigated; and, from observing the almost constant signs of inflammation having existed in some important organ in those cases which have proved fatal, the dangerous doctrines which led to the opinion that debility is the symptom chiefly to be combated in fever, have been fairly driven from the ground they unfortunately too long maintained. It is pleasing to observe, that the same improved mode of reasoning upon the phenomena of febrile affections is beginning to extend on the Continent, and a more efficient practice to be adopted‡.

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* *Repository,* vol. vii. p. 417.

† *Surgical Observations,* vol. i. p. 338.

‡ In proof of the accuracy of this remark, vide *Examen de la Doctrine Medicale Generalement adopté, et des Systèmes Modernes de Nosologie;* par J. V. Broussais: our analysis of this work, *Repository,* vol. vii. p. 469: *Dictionnaire des Sciences Medicales,* article *Fièvres en particulier:* and *Recueil Général de Medecine,* tome lviii. p. 221. &c. &c.

But it is more especially that modern medicine may in the treatment of fevers exult. We shall notice such improvements as have recently occurred. The management of *Intermittents* is so well understood, that any new proposals regarding them rather tend to excite surprise. The successful revival, however, of an old method of arresting the paroxysms, and, consequently, of removing the disease, will be seen in our translation of Professor Chladni's report of the effect of ligatures to the extremities, in his own case*. We leave to the opinions of our readers M. Hufeland's explanation of the fact. The question of the contagious nature of that description of fever, which has been termed "*yellow, or Bulam, or ardent fever,*" is still unsettled. A very able and interesting report, drawn up by Mr. Mortimer of the navy †, which, we are informed, "conveys the sentiments of nearly the whole of the medical naval corps,' presents many strong facts against the idea of its contagious nature, and refers it altogether to the influence of local causes, such as the effluvia or miasmata, arising from putrifying animal and vegetable matter. This decomposition of vegetable matter he conceives may arise even on ship-board; and he ascribes the rise and great mortality of this fever, as it occurred in the Regalia transport, in 1815, to her being supplied, when on the coast of Africa, with green wood, which he conceives, when acted upon by the bilge water and dirty ballast, generated the fomes of the disease. This opinion is very ably supported by Dr. Dickson ‡, who, besides, lays much stress upon the disposition of the body of the individual, exposed to the local causes, to receive the disease: and from the youthful, sanguine temperament of the newly arrived European in tropical climates, the system "goaded by the stimulus of unnatural heat," free living, and exposure or exertion, becomes infinitely more susceptible of fevers, than those assimilated to the climate. Hence Dr. Dickson reckons the tendency to yellow fever to be in the compound ratio of the disposition, and the force of the exciting cause. He considers, that "whatever may be the peculiar coincidence of circumstances, or modification of cause, most fertile in the generation of yellow fever, an uniformly high temperature is the *sine qua non*." But although it be generally admitted, that a high temperature favours the spontaneous production of yellow fever, yet, M. Moreau de Jonnés || has ascertained that this is not a circumstance essential to its production.

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* *Repository*, vol. vii. p. 253.

† *Medico-Chirurg. Journ. and Rev.* vol. iii. p. 9, 93, 182.

‡ *Edin. Med. and Surg. Journ.* vol. xlix. p. 35,

|| *Journal de Medicine*, vol. xxxviii. p. 108.

Dr. Dickson, anticipating such an objection, observes, that it is incumbent on those who rest their opinions of the contagious nature of the disease, on the fact that this fever does not occur in countries where the heat is more intense, and also in places lying in the same latitude with the Caribbean Archipelago, to shew "why a temperature above a certain height ought to be more favourable to its production; and, secondly, that the climate of two places must be alike, because they lie at the same distance from the equator." He brings forward various authorities to account for these discrepancies, and concludes by remarking, that he is fully convinced that yellow fever arises only in "hot, low, moist, close places, whenever new men are exposed to miasmata, intemperance, or fatigue," and, consequently, that it is not "an imported or contagious disease; but a strictly local and indigenous evil—quod sol atque imbres dederant, quod terra crearat sua sponte." Notwithstanding the extent of the facts and the reasonings which have been brought before the public on this important subject, we must confess that our mind is still unsettled on the point.

With respect to the susceptibility of the system to a repetition of the fever, we have to remark, that Mr. Mortimer, in the Report alluded to, conceives it can be taken a second time; but the weight of the instances he brings forward* is weakened by the quickness with which these supposed second attacks followed the first; and they have with some reason been regarded rather as "relapses," than second attacks. Dr. Dickson's evidence is, nevertheless, in favour of Mr. Mortimer's opinion; for although indemnity to a considerable extent, may be purchased by a previous attack, "yet," he remarks, "such protection is but relative, and though a sufficient security against ordinary causes, is not proof against such as are of great intensity." In a report on this fever by Mr. Comrie, we find the following passage, corroborative of the opinion that the body is susceptible to a second attack: "On our passage to Bermuda, the captain and almost all the officers (of His Majesty's sloop Dasher), and most of the midshipmen, were again severely attacked with this disease†."

Whatever may be the opinions regarding the contagious or uncontagious nature of this fever, and the susceptibility to a second attack, practitioners, we believe, are pretty generally agreed as to the general principles on which the treatment should be conducted. The practice of phlebotomy in cases of continued fever, which is daily gaining new advocates, has been adopted in yellow fever; and the success of the plan fully warranted its adoption. In the instances which we have particularly noticed, Mr. Mortimer[*] found bleeding, ad deliquium, the most appropriate, and indeed the only remedy required at the commencement of the attack; but, when the symptoms are indicative of a relapse at this period, he conceives the habit should be prepared by immersing the body in warm water, with a view of exciting the languid circulation, and giving the surface its natural warmth. The bowels should be kept lax by calomel exhibited as a purgative, in which view alone he thinks it useful, and by enemas. To allay the vomiting he recommends effervescing draughts, with carbonate of ammonia and magnesia. Dr. Dickson, also, relies upon the early employment of the lancet, in conjunction with purging and the cold affusion, if indicated: but he prudently fences his recommendation of blood-letting by remarking, that its utility is "entirely dependant, not only on time and quantity, but on the varying state of the animal system;" and, consequently, this remedy "is in continual danger of being rated too high or too low." The extraordinary extent, also, to which the bleedings were occasionally carried, must in our opinion have contributed to bring the remedy into some disrepute; for, unless the indications, which could authorize such enormous abstractions of blood as "seventy ounces" at one bleeding, or 250 ounces or more in three days[†], were judiciously examined, much mischief might be the result. The free use of the lancet, however, is fully authorized by morbid anatomy. Among other testimonies Mr. Mortimer, states, that he has found the meninges of the brain highly vascular, the surface covered with patches of lymph, "and the adhesions remarkably firm;" the stomach also, in some cases, exhibited evident marks of high inflammatory action.

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* Vide *Medico-Chirurg. Journ. and Review*, vol. iii. p. 100.

† *Edin. Med. and Surg. Journ.* vol. l. p. 179.

Although we are fully satisfied that too much alarm has been excited on the subject of contagion, and that many unnecessary restraints are often imposed by the quarantine laws, we are by no means prepared to go the length which has been done by Dr. Maclean[‡], and declare that no fever can be communicated by contagion, and that lazarettos and the quarantine laws should be utterly abolished.

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[*] *Medico-Chirurgical Journ. and Review*, vol. iii. p. 186.

[†] Vide a Paper *On the Ardent Fever of the West Indies.* By Mr. Peter Comrie. *Edin. Med. and Surg. Journ.* vol. I. p. 165.

[‡] Vide *Suggestions for the Prevention and Mitigation of Epidemic and Pestilential Diseases, comprehending the Abolition of Quarantines and Lazarettos, &c.* by Charles Maclean, M.D. 8vo. pp. 108. Lond. 1817.

However painful the duty, we feel ourselves called upon to notice the numerous and accumulating failures of cow-pox in preventing small-pox, whether in the natural way, or by inoculation. Our communications on this subject have been numerous; and some of the cases do not appear to have been modified by the previous disease. It is not easy to account for these distressing occurrences; but were we to hazard a conjecture, we would venture to suggest that it is possible the virus may have become so modified by being confined altogether to the human subject, that its powers of producing the necessary affection of the constitution, which only can be regarded as the test of security, may be so nearly worn out, as to be no longer a certain preventive. Hence the necessity of frequently renewing the efficacy of vaccination by procuring the virus directly from its original source. This opinion, however, can be regarded in the light of a conjecture only, calculated to excite inquiry; for the real causes of the fact which it is meant to explain cannot be too minutely investigated.

The methods of treating *erysipelatous inflammation* by incisions in the affected part, suggested by Mr. Copeland Hutchison[*], in that species of the disease denominated *phlegmonodes*, we still regard as a great improvement in those attacks of the disease which are strictly symptomatic of great local irritation[†]. Dupuytren's practice of applying blisters in similar affections certainly merits, also, attention[‡].

The prevalence of *pertussis* has given several opportunities for determining the effects of belladonna in this distressing complaint; and one of the Editors[§] has had ample proofs of its powerful influence in subduing the spasmodic character of the cough, and shortening the period of the disease. He has generally prescribed, at the same time, confinement to one or two rooms, complete abstinence from animal food, occasional laxatives, and a combination of subcarbonate of soda and ipecacuanha, to allay any disposition to fever, and correct the tendency to acidity of stomach, which the continued use of the ascescent diet recommended induces. The disease in the worst cases, thus treated, has not been protracted beyond five or six weeks; and the hoop has usually terminated in a much shorter period. The convalescence is greatly shortened by the administration of a mixture with decoction of cinchona and soda, and free exposure to the air.

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[*] *Some Practical Observations in Surgery, &c.* By A. Copland Hutchinson, 8vo. pp. 167, London, 1817.

[†] *Repository*, vol. vii. p. 219. [‡] Ibid, vol. vii. p. 249.

[§] Mr. A. T. Thomson, who proposes to give the result of his practice, in a considerable number of cases to the public, through the medium of the *Repository*.

In the method of treating *rheumatism* by percussion and pressure, Dr. Johnson has shewn[*] that Dr. Balfour has been anticipated by the Oriental practitioners, and, also, by Dr. Lind of Haslar Hospital, who adopted their method about thirty years ago. Instead of the hand, however, the Orientals use two instruments; one, a wooden cylinder, with a pretty hard, stuffed leather ball on one end; the other, a stick, on which a number of smooth wooden balls are strung, like beads on a wire. The affected part is beaten with the first, then rubbed well with the second, for a quarter of an hour every day, and afterwards bound up lightly in a calico bandage. Dr. Lind found it, on trial, beneficial in many cases of the chronic form of the disease. Dr. Balfour, however, has addressed the Editors of the Medico-Chirurgical Journal, defending his claim to discovery in this practice[†].

Several cases of the deleterious effects of the *Eau medicinale* in gout have been recorded by Dr. Bartley of Bristol[‡].

Some interesting cases of the efficacious effect of large doses of calomel, in combination with opium, in dysentery, have been published by Mr. Power, a naval surgeon[§]. The remedy was given in doses of a scruple, and repeated two or three times a day, until ptyalism came on, after which the violence of the symptoms invariably abated. It ought, however, to be kept in view, that this practice was pursued in a tropical climate. On the importance of an early and free use of the lancet in this disease, we have lately had occasion to express our sentiments[||]; and we must repeat, that to Dr. Somers[a] is justly due the merit of having pointed out to modern practitioners the extent to which it may be carried.

We have been rather surprised at an observation of Dr. Woodforde, that practitioners are become sceptical with regard to the utility of blood-letting in *apoplexy*[b]. We believe on few points are they in general so well agreed; and we scarcely know a practitioner who would be deterred by appearances of debility from bleeding freely in any case where cerebral congestion was evident. This effect of plethora has been well illustrated in one of Dr. Leacock's experiments. By transfusing arterial blood from a dog into a cat, until plethora was induced, all the symptoms of direct debility supervened. The contractile power of the heart diminished; the eyes became suffused, slightly protruded, glistening, and excessively red: salivation next ensued, with vomiting, coma, and every symptom of compression of the brain. The animal died in six hours. Dissection displayed symptoms of congestion, both in the brain and abdominal viscera; "a quantity of bloody bile was found in the gall-bladder; and in most of the cavities some bloody serum was effused*.

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[*] *Med.-Chirurg. Journ. and Review*, vol. iii. p. 109.

[†] Ibid. No. for April. [‡] *Repository*, vol. vii. p. 275.

[§] *Medico Chirurgical Journal and Review*, vol. iii. p. 179.

[||] *Repository*, vol. vii. p. 416.

[a] *Medical Suggestions for the Treatment of Dysentery, &c.* By C. S. Somers, M. D. 8vo. pp. 78, London, 1816.

[b] *Trans. of the Medical Society of London*, vol. i. Part ii. Art. ii.

We have already noticed Dr. Fouquier's method of treating *paralysis* with nux vomica. We may here mention, that although this physician conceives that almost every case of hemiplegia depends upon an effusion of blood in the brain, yet he does not regard this as an obstacle to the cure, or sufficient to exclude the use of the nux vomica as a remedy; but, at the same time, he justly remarks that the degree of circumspection necessary in employing general stimulants in hemiplegia, when it is the sequel of apoplexy, or where the mental faculties are much impaired, or relapses demonstrate the disposition to another attack, ought never to be forgotten. He regards the excitement produced by the nux vomica favourable to the re-absorption of the effused blood; and "if," he adds, "as experience has proved, feeling and motion can be restored to the paralysed members, notwithstanding the permanent compression of the medulla spinalis, why should not the same remedy hasten the cure of paralysis, when it depends on a similar cause†." Whatever may be thought of Dr. Fouquier's reasoning, the facts he has detailed are extremely valuable.

Although pathologists have noticed tremors and agitations of the body, as an accompaniment of paralysis, and have employed the term *shaking palsy* to designate some of these, yet, the meaning attached to the expression has been vague, and palsy, chiefly characterized by these shakings, has never, until the subject was lately taken up by Mr. Parkinson, been regarded as a distinct disease. The Essay‡ which this author has just published on the subject, is equally remarkable as a specimen of his characteristic modesty, and the acuteness of his observations. He defines the disease in the following words: "Involuntary tremulous motion, with lessened muscular power, in parts not in action, and even when supported; with a propensity to bend the trunk forwards, and to pass from a walking to a running pace; the senses and intellects being uninjured." The tremors commence in the upper extremities, and gradually pass to the lower, until the entire body is so much affected that the patient is unable to make any progressive movement, even with the assistance of crutches. The tremors, however, occur, although the affected part be supported and unemployed, and are even checked by the adoption of voluntary motion;" but are never accompanied "by a lessened sense of feeling;" while in palsy, consequent to compression of the brain, the diminution of voluntary motion is sudden, and generally accompanied by impaired sensation. The distinction also between the disease our author describes under the term Shaking Palsy, and those passive tremblings to which the name has frequently been applied, and which are chiefly consequent to indulging in spirituous liquors and narcotics, is well defined.

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* For a case analogous to this, in the human body, arising from natural causes, vide *Repository*, vol. vi. p. 116.

† *Bulletin de la Faculté de Medecine de Paris, &c.* No. iv. 1817. p. 359.

‡ *An Essay on the Shaking Palsy.* By James Parkinson, Member of the Roy. Coll. of Surgeons, 8vo. pp. 66. Lond. 1817.

Mr. Parkinson proceeds with some hesitation, inasmuch as he is unaided by previous inquiries and anatomical investigation, to trace the causes of shaking palsy. The proximate cause he conceives to be, "a diseased state of the *medulla spinalis*, in that part which is contained in the canal formed by the superior cervical vertebra, and extending, as the disease proceeds, to the *medulla oblongata*." Although this opinion must be received with caution until opportunity enables it to be confirmed by the test of anatomy; yet, the progress and nature of the symptoms render it probable. It is only difficult to conceive, that the diseased state should be so local as to exist in the superior part of the medulla without extending to the encephalon, the integrity of which is implied from the absence of any injury to the senses and the intellect. The remote cause is not less objectionable than the proximate; but Mr. Parkinson assumes that it "may be the result of injuries to the medulla itself, or of the theca helping to form the canal in which it is inclosed:" and, reasoning from the circumstances connected with several analogical cases which he details, and the observations of Sir Everard Home on the effects of injury to the *medulla spinalis*, he is led to conclude that these injuries cannot be produced by compression, laceration, or complete division, of the medulla; but may be "occasioned by simple inflammation, or rheumatic or scrophulous affection." With regard to the means of cure, every thing which can be expected to accomplish any beneficial effect must be attempted in the first stage of the disease, or while the agitation does not extend beyond the arms. The means suggested are bleeding from the upper part of the neck, followed by vesicatories or issues, calculated to begin and keep up a purulent discharge. No internal remedies are recommended, unless opportunity occur to make trial of mercury: but tonics, and nutritious stimulating diet are justly reprobated. The slow progress, however, of the disease, and the late period of life at which it occurs, does not allow much to be expected in a remedial point of view.

We have already brought before our readers Dr. Morrison's judicious practice in *Tetanus*[*]. As to the opinion of Dr. Dickson[†], that every case of the disease is preceded by a torpid state of the bowels, we may observe that although costiveness frequently ushers in idiopathic tetanus, yet it is seldom a forerunner of the traumatic form of the disease. In the interesting case of the disease drawn up by Mr. North[‡], the bowels were constipated, and the opium ordered was judiciously combined with purgatives. The benefit which may be reasonably expected from blood-letting in tetanus, is well illustrated by Dr. Macarthur's cases[‖]; and besides the illustration of the rationale of this practice, derived from his dissections, the practice gains further support from that of M. Patissier[§].

It is stated that Brugnatelli has succeeded in curing *Hydrophopia* by means of oxygenated muriatic acid internally and externally employed[a]; and our correspondent Dr. Granville adds four well authenticated cases of perfect cure; and two, in which the developement of the disease had been impeded, are recorded[b]. In Calabria, Dr. Scuderi imagines he has effected several cures by means of sulphuric acid[c]. It is unnecessary to make a comment on such statements; the profession will readily appreciate their value.

We may here mention the appearance of a work by M. Villermay, on *Hysterical* and *Hypochondrical* affections[d]. As we have not seen the original, we can merely notice here the opinion of M. Dubuisson, who has reviewed the work in the Journal de Médécine: "It is," says he, "the best and most complete work that has hitherto appeared on these diseases."

In fatal cases of affections of the heart, polypus concretions have been found in the cavities of that viscus, and in the aorta; but it is extremely difficult to determine whether these really existed previous to the death of the patient. In a case of *Enlargement of the Heart*, recorded by Mr. Stewart*, dissection demonstrated, that the right auricle, and both ventricles, contained each a large polypus, attached by pedicels, and having so much vascularity and perfect organization, as to leave little doubt that they had existed for a considerable time previous to death.

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[*] *Repository*, vol. vii. p. 306.

[†] Ibid. p. 404. [‡] Ibid. p. 450. [‖] Ibid. p. 404. [§] Idid. p. 251.

[a] *Philosophical Magazine*, vol. xlix. p. 312.

[b] *Repository*, vol. vii. p. 252. [c] Ibid.

[d] *Traité des Maladies Nerveuses ou Vapeurs, et particulierement de l'Hysteria et de l'Hypochondrie.* Par M. Louyer-Villermay, M.D. &c. 2 vol. 8vo. Paris, 1816.

As if by common consent, medical writers in most parts of Europe appear at length to have become sensible of the neglect with which for ages the disorders affecting the human intellectual faculties have been treated; and hence an infinite number of essays on *insanity* generally, or on particular forms of it, have emanated from the press. Within the period to which our *Retrospect* extends, several have been published respecting the physical and moral condition of the insane, and others are announced as being in progress.

Mr. Maurice Roubaud-Luce's Recherches† bring into a compressed view the observations of antient and modern practitioners on the subject of that species of insanity which nosologists have defined Melancholia; but the author adds nothing to what was before known regarding this peculiar affection.

Dr. Haslam, who is already so well known by his "Observations on Madness," has offered, in a little Tract‡, some very judicious hints relative to the moral management of insane persons; which, if regarded as they merit, would doubtless contribute to the immediate comfort and security, and consequently, although remotely, to the recovery of such patients. But, excepting some remarks on keepers, there is little novelty in Dr. Haslam's Considerations. We cannot but lament, that, on a subject where so much could have been said, and that by an author whose opportunities have been so great and instructive, he has, in this instance, been so succinct as to leave the reader in considerable doubt of the reality of his intentions.

The recent inquiry by a Committee of the House of Commons into the state of mad-houses, &c. has exhibited, in a forcible point of view, the necessity of legislative interference and regulation; and hence a Bill was arranged and introduced into Parliament, professing the correction of existing abuses, and the amelioration of the condition of the insane in this Kingdom. But the projected measure, when submitted to examination, appeared rather to defeat than promote the humane intentions of the framers; and, by some very extraordinary provisions, to shift the reprobated system of coercion from the patients to their attendants. The errors of the whole of the proposed regulations were also highly injurious to the interests of all those whom they most affected to regard. Dr. Burrows has, in a pamphlet*, exposed these errors, and successfully combated the principles upon which the Bill is founded; and has offered many hints to the consideration of the Legislature upon this delicate and important subject. The effect has been decisive; for the Bill, although not formally disposed of, yet is deemed lost for the present, the second session of its being entertained.

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* *Edin. Med. and Surg. Journ.* vol. I. p. 184.

† *Recherches Medico-Philosophiques sur la Mélancolie,* par Maurice Roubaud-Luce, 12mo. à Paris, 1817.

‡ *Considerations on the Moral Management of Insane Persons,* by John Haslam, M.D. 8vo. London, 1817.

In those acquainted with the speculations of Drs. Gall and Spurzheim, it will not excite surprize to find that either of them should offer their opinions on the subject of insanity. Accordingly, Dr. Spurzheim, has published a volume of Observations†. The lateness of the publication precludes the possibility of our perusing it with that deliberation necessary, in fairness to the author or ourselves, to form a decisive opinion of the merits of the work. It is evident, however, from the frequent references of the writer to his Physiognomical System, that this must be considered as an emanation or offspring of that work; without which, in fact, his doctrines and inferences cannot well be comprehended. For the present, as it will speedily come under our review, we shall do little more than give Dr. Spurzheim's division of the contents. After a preface and introduction, the subject is divided into two parts:—1. Derangements of the External Functions of the Mind; 2. Derangements of the Internal Functions of the Mind.—Under the first head he treats of disorders of voluntary motion, and diseases of the five senses: under the second, of diseases of the brain, insanity, its definition, symptoms, division, causes, forms and fits of insanity, prognosis, and the treatment of insanity. The work is embellished with four plates; one of which represents the heads of six idiots, whose brains, with respect to size, were defective in different degrees; another, with the configuration of two skulls of idiots, and the skull of three heads, distended by water in the interior of the brain; the third plate is the plan of an hospital for curable insane patients; and the fourth, the plan of a house for convalescents.

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* *Cursory Remarks on a Bill now in the House of Peers, for Regulating of Mad-Houses, its probable Influence upon the Physical and Moral Condition of the Insane, and upon the Interests of those concerned in their Care and Management; with Observations on the Defects of the Present System*, by George Man Burrows, M.D F.L.S., &c. 8vo. London, 1817.

† *Observations on the Deranged Manifestations of the Mind, or Insanity*, by J. G. Spurzheim, M.D. royal 8vo. London, 1817.

Within these few days, Dr. Thomas Mayo has also published Remarks on Insanity*; but this work we have not yet seen.

On a paper of Mr. Hey of Leeds, containing some facts which he is inclined to think "illustrate the effects of the venereal disease on the fœtus in utero," we have already delivered our opinion †. The employment of the nitro-muriatic acid bath in cases of this disease, in which the system appears to have suffered under the continued use of mercury, becomes more general; we have inserted in our pages the manner of using the bath, as described by Dr. Scott himself ‡.

In closing this portion of our Retrospect it is scarcely requisite to observe, that the catalogue of medical literature has not been very amply swelled within the period it comprehends. We may, however, enumerate the following works on the practice of medicine, in addition to those which we have already more particularly noticed. *A cursory Inquiry into some of the principal Causes of Mortality among Children.* By J. B. Davis, M.D. *Reflections upon Oil of Turpentine; and upon the present State of the Medical Profession in Ireland.* By a Country Practitioner. *Medical and Miscellaneous Observations relative to the West Indies.* By John Williamson, M.D. *Practical Rules for the Management and Medical Treatment of Negro Slaves in the Sugar Colonies.* By a Professional Planter. The second part of Mr. Thomas' *Commentaries on Scirrhus and Cancers.* *A Treatise on the Watery Gripes of Infants.* By Dr. Zugenbuhler §. *Memoirs on Chronic Diseases,* &c. By Dr. Berlioz ||: and *a Medical Account of the Antilles.* By A. Moreau Jonnes*. As more or less connected also with this part of our subject, we may add *Canine Pathology; or, a full Description of the*

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* *Remarks on Insanity, tending to illustrate the Physical Symptoms and Medical Treatment of that Disease, and founded in the Practice of John Mayo, M.D.* by Thomas Mayo, B.M. &c.

† *Repository,* vol. vii. p. 405. ‡ Ibid. p. 417.

§ *Uber den Vielfarbigen Durchfall junger Kinder.*

|| *Memoirs sur les Maladies Chroniques, les evacuations sanguines et l'acupuncture;* par L. V. T. Berlioz, M.D. à la Côte Saint André. 8vo. Paris, 1816.

* *Tableau du climat des Antilles,* &c. Vide Journal de Medecine, on. xxxviii. p. 85.

Diseases of Dogs, &c. By Delabere Blaine; with a Treatise by M. Dupuy on the *Tuberculous Affection* of some of the lower animals*; and we do not consider, that we lessen, in any respect, the dignity of the profession, by remarking, that much light may occasionally be thrown upon human pathology, by investigations into that of brutes, properly conducted by ingenious and properly instructed inquirers.

SURGERY AND MIDWIFERY.

We cannot commence our notices on surgery without adverting to the Hunterian Oration, lately delivered by Mr. Norris, the present Master of the College. It is, indeed, a difficult task to infuse much interest or novelty into the descriptions of a traveller, who has to pass over ground that has been trodden and described by hundreds before him; and in a similar degree an annual oration on the same subject scarcely admits even of variety. It is but doing justice, however, to say, that Mr. Norris has displayed, in this performance, considerable skill in the arrangement of his subject, and purity of taste in the style he has adopted; and has produced an elegant specimen of his talents for rhetorical composition.

In estimating the qualifications of a surgeon, too much value has, perhaps, been placed upon skill in operating, and too little on that general knowledge of pathology which is requisite for successfully conducting the subsequent treatment of a case. It is gratifying to see this subject properly treated by such men as Boyer and Delpech†, and not less so by Mr. Bell, in his Surgical Observations‡. In his third number he brings forward several cases to demonstrate the tendency which "injuries to the frame, whether the effect of wounds or of surgical operations," have to produce disorders of the lungs, by exciting a general high state of irritation. In these instances, which too often prove fatal, dissection exhibits marks of recent inflammation in the lungs, "coagulable lymph exuded, purulency on the surface of the lungs or in the bronchi, and congestion or abscess in their substance." Mr. Bell seems to conceive that this state may be induced independent of any phthisical predisposition in the habit of the patient; an opinion with which we cannot entirely accord; but we fully subscribe to the propriety of his caution, that the "knowledge of this connexion betwixt wounds and the state of respiration, will make us careful to defer all operations when any tendency to disease occurs."* For the cure of this affection, the most active antiphlogistic treatment is requisite; while, at the same time, all local irritative applications should be suspended.

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* *De L'Affection Tuberculeuse, vulgairement appelée Morve, Pulmonie, Gourme, Farcin, Fausse Gourme,* &c. Par M. Dupuy, Médecin-vétérinaire, &c. 8vo. pp. 479. Paris, 1817.

† Vide our Analysis of Delpech's work, *Précis Elementaire des Maladies Réputées Chirurgicales,* 3 vols. 8vo. Paris, 1816: *Repository,* vol. vii. p. 120.

‡ *Surg. Observ.* &c. By C. Bell, 8vo. Lond. 1817, p. 241--259.

So much has been lately said and written on the subject of *ligatures* applied on arteries, that it really has become a matter of the first importance, to consider soberly in what the old method is defective, and what the advantages really are which the new methods hold out. On this subject several sensible observations have been made by Mr. C. Bell*. In his opinion a ligature should be round, strong, and drawn sufficienty firm to indent the coats of the vessel, and interrupt the blood in its course: for if it be so small as to cut the inner coat of the vessel, the outer coat only is left to restrain the bleeding; and if too large, it cannot be drawn sufficiently tight to stop the current of the blood: and a ligature should, in every part of its circle, be in contact with the coat of the vessel; for if other matters be included it is apt to lose its hold. The clot that plugs the artery, and is formed behind the ligature, is longer or shorter, according to the distance of the last branch from the part tied; but besides this clot, coagulable lymph is thrown out from the irritated artery, and is of the greatest consequence in effecting the union of the coats of the vessel, which, from the loss of function, degenerate into a common texture. He advises the taking away the ligatures on the smaller arteries of a stump, at the first dressing, and to twist the ligature on the large vessel, so as to reduce it to the state of a small round cord. This twisting is sufficient to bring away the ligature, which Mr. Bell contends should never be pulled. He is apprehensive the case is not made out, with regard to cutting the ligatures off close by the knot, and healing the flap over them: because the necessity for a change in this part of the operation of amputation is not very obvious, and the foreign body is likely, in the majority of cases, to prove a hurtful irritant. On this important question we would particularly direct the attention of our readers to the experiments and observations† of our valuable friend and correspondent Mr. Cross, whose opinions, in many respects, accord with those we have just detailed. We confess we have, as yet, formed no settled opinion on the subject.

As connected with the subject of tying arteries, we may announce here one of the boldest operations that has ever been undertaken in surgery, the tying the aorta in the living subject. This operation was performed by Mr. Astley Cooper, on a patient at Guy's Hospital, on the 25th of this present month (June). The man had an aneurism of the common iliac on the left side, which we believe was in that state that life was momentarily in danger. Mr. Cooper immediately cut through the parietes of the abdomen, put aside the intestines, and freeing a portion of the aorta, close to the bifurcation, succeeded in getting a ligature round it. The patient lived thirty-six hours; and on opening the body, no appearance of inflammation, except on a small portion of the omentum, which adhered where the incision had been made, were discovered.

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* *Surg. Observ.* vol. 1. p. 259. † *Repository*, vol. vii. p. 355.

Amputation is often requisite to save the life of an individual when mortification occurs in a limb, which it occasionally does even from slight injuries. The operation however, should not be hastily undertaken; and the young surgeon would do well to ascertain, as Mr. Bell has remarked in his Observations*, that satisfactory answers be obtained to the following queries, before determining the point: "1. Does the mortification proceed from the violence done to the part, or does it come of the constitution? 2. Has the mortification extended so widely and destroyed so much of the substance, that, in the event of recovery, the limb will be useless? 3. Has a large joint been opened? 4. Has the mortification gone so far, that, even in the event of its stopping, the suppurating surface will be too extensive for the powers of the constitution? 5. Are the great vessels undermined, and is there danger of fatal hæmorrhage?" These questions are not new; but the necessity of attending to them cannot be too often urged. When the operation however is determined on, it should be well done; and in few parts of surgery have so many improvements been introduced. A French soldier, who was wounded at the battle of Waterloo, and whose limb was amputated by Mr. Guthrie at the hip-joint, was lately presented to the *Société de Médécine* of Paris, by M. Larrey, as another proof of the success of this operation†. Every praise is undoubtedly due to M. Larrey, for his exertions in removing the prejudices against the hip operation by his example; and we are not unwilling to grant him the honour he claims, of having first practically demonstrated its safety and propriety.

Previously to performing another important operation also, *lithotomy*, it is of much importance to determine, whether the stone be free in the bladder, or sacculated. In the work‡ we have had occasion already to quote, the following rules for this purpose are laid down. When the stone does not change its place, nor stop the flow of the urine; "when in sounding, it is felt always at the same point; when that point retires if the bladder be full, and approaches if it be empty; when the sound cannot be got round the stone, but only to touch it, we must doubt whether the stone be free in the bladder." If the stone be sacculated in the coats of the bladder, at or near the fundus, Mr. Bell recommends the high operation; "and in performing it, to lower the handle of the sound until the part of it in the bladder and in the sac, be felt through the inner coats of the cell". This is then to be cut open with a sharp bistoury; the wound enlarged with a probe pointed bistoury, and the stone seized. To insure the success of the operation, a catheter should be kept in the bladder. If the stone be fully ascertained to be sacculated in the neck of the bladder, by the usual first incision carried directly upon the face of the calculus, "it might be extracted without cutting into the bladder at all; and if the sacculation be behind the muscles of the ureters, it is possible to cut upon the gripe."

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* *Surgical Observations*, vol. i. p. 303.

† *Bulletin de la Faculté de Medecine de Paris*, 1817, p. 316.

‡ *Surgical Observations*, vol. i. p. 447-60.

Some remarks on the morbid growth of the cornea, which gives it a conical form, with a new method of treating it, have been published by Sir Wm. Adams*. This state occurs without inflammation, is progressive, and the thickness producing the conical form, is chiefly in the centre. The cornea, when examined in front, sparkles with a brilliancy like crystal; a circumstance, which Dr. Léveille attributes to the cornea reflecting, instead of transmitting, an opinion which Sir William's operations have proved to be well founded. The vision, if not utterly destroyed, is so indistinct, as to oblige the patient to be nearly as dependant as if totally blind. From a case which occurred, in which cataracts were combined with conical cornea, and in which, after the removal of the cataracts, the patient could see more distinctly without convex glass than is usual after the operation, and with a convex glass small print could be read without difficulty, Sir William was induced to try the removal of a healthy cornea, "as a remedy for blindness produced by conical cornea;" and the result was perfectly satisfactory. When the crystalline is healthy, or in a state capable of being broken down, he properly recommends it to be removed by that method as preferable to extraction.

Dr. Lobenstein Lobel has proposed to extract the diseased lens in cataract through the conjunctiva instead of the cornea†. He conceives, much benefit is likely to result from this, "when the capsule, half or a whole line thick, is morbidly indurated, or when the lens is very large and cannot be broken down," by its setting aside any chance of prolapsus of the iris; and by the re-union of the divided parts being more expeditious than on making the incision through the cornea. We may remark as an objection to this proposal, that wounds in the conjunctiva are followed by more inflammation than those in the cornea.

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* *Phil. Mag.*, xlix. p. 110.

† *Edin. Med. & Surg. Journ.* l. p. 59.

On the subject of *fungus hæmatodes*, or soft cancer, some very valuable cases and remarks have appeared[*]. Mr. Bell is of opinion, that the only remedy, is recourse to the knife the moment the disease is ascertained; and if it have "got entangled in the vessels and muscles of a limb," nothing offers hope but amputation; but even this will not avail, if the muscles "exhibit a pale blanched and fishy appearance." Another set of tumours, nearly as dangerous if neglected as the soft cancer, we mean those which rise from the gums, have also engaged the attention of this excellent surgeon. A tumour of this description first appears as "a small hard prominence of the gum, shooting out betwixt two teeth." If those be not decayed, we may conclude, that the cause is deep, and not to be removed by pulling the teeth; but if they be bad, there is a reasonable hope of arresting the progress of the disease, by removing them. If the tumour originate "in the membrane of the fang, or in the socket," then the "whole system of parts, the whole of what is connected in constitution, must be removed." These opinions are illustrated by several very interesting cases[†].

When *hernia* occurs in early infancy, it is generally of that description which has been denominated congenital; in which the protruded bowels are found in contact with the testicle; but instances have occurred to prove, that real hernia may occur at a very early period; in testimony of which, the dissection of a case has been published by Mr. Howship, in which the hernia had no connection "with the tunica vaginalis testis[‡]."

We notice as a valuable addition to works on hernia, the dissertation of Dr. Hesselbach, which has been lately translated into Latin by Dr. Ruland[||].

Connected with this subject, is the operation on the artificial anus at the groin, suggested by M. Dupuytren, and described in our last *Retrospect*. We had much satisfaction in being able to lay the plates illustrative of this operation, before our readers; and shall seize the first moment of putting them in possession of M. Dupuytren's description of its various steps, as soon as it is given to the public.

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[*] *Surgical Observations*, vol. i. p. 365.

[†] *Ibid.* p. 413-28.

[‡] *Med.-Chir. Journ. &c.* vol. iii. p. 179.

[||] *F. C. Hesselbach, M.D. in Theatro Anatomica Wirceburgensi Prosectoris, Soc. Med. Erlang. Membri, Disquisitiones Anatomico Pathologicæ de Ortu et progressu Herniarum inguinalium et cruralium, accedit Descriptio instrumenti, hæmorrhagiis sub herniotomia ortis et secure detegendis, et sistendis apti, iconibus illustrata.* Latinitate donavit Th. Aug. Ruland, M.D. &c. 4to. p. 80. Wirceburgi, 1816.

No material changes have taken place in the practice of Midwifery within the period of our present *Retrospect*, if we except the invention of an improvement in the craniotomy forceps, by Dr. Davies, Physician to the Queen's Lying-in Hospital; the advantages of which the following description will render evident. The instrument is intended to complete the delivery speedily and safely in those unfortunate cases where it is previously necessary to diminish the bulk of the child's head. No other instrument has been proposed to answer this intention either in ancient or in modern times, that is not liable to very strong objections. The order of laborious labours requiring the use of instruments of this class, has been therefore regarded as embracing the least cultivated department of instrumental midwifery.

The instrument, now proposed, consists of two handles and two blades, with a locking part common to each, to be adjusted precisely in the same manner as those of the ordinary midwifery forceps. The handles, as far as the lock inclusive, are in no respect different from those of the common forceps. The blades, however, are not divergent from each other, but are produced in a parallel direction, remaining very near each other, until they meet at their expanded extremities within about an inch and a half of their terminations. At this part, the opposite blades are made to embrace each other so firmly, as to have the power of detaining within their grasp substances of the utmost tenacity. Both blades are gently curved, to adapt them to the axis of the pelvis and to the shape of the child's head. Each blade is to be introduced singly. The external blade is to be insinuated on the outside of the head, which, in most cases, cannot be very difficult, after a proper quantity of brain has been removed. The internal blade is to be introduced into the inside of the head, through the perforation which has been already made on it by the operation of craniotomy. The corresponding parts of the instrument are then to be brought together by a careful adjustment at the lock. This adjustment will have the effect of causing to be embraced between the blades, a portion of the child's skull on the inside, and of the integuments covering that part of the skull on the outside, corresponding to the dimensions of their grasping extremities. The internal surface of the external blade, it will now be readily inferred, is concave, to adapt it to the convexity of the child's head on the outside. On the contrary, the internal surface, by which is meant the grasping surface of the internal blade, is convex, that it may come in contact more readily, and at many points with the concave surface of the child's skull interiorly. But as we operate in cases of this kind in circumstances often of great confinement or distortion, much force of traction must in many instances be employed, and therefore without great tenacity of purchase, any instrument would be liable to slip. This accident has been provided against in the following manner. The expanded extremity of the internal surface of the external blade is hollowed out into a receptacle like that of a spoon. Attached to, and rising from the bottom of this receptacle, are a number of sharp teeth, the points of which are under the level of the brim; and are therefore secure from the reach of any part of the mother during the introduction of the external blade. Corresponding with these teeth of the external blade, imperforations are drilled into the convex or grasping surface of the internal blade. Upon the handles of the instrument being forcibly brought together, the adjustment at the locking part having been properly attended to, it is manifest that the imperforated convex surface of the internal blade must have the effect of pressing the embraced part of the skull and integuments of the child's head upon the sharp teeth of the opposite part of the instrument; or, in other words, that the teeth of the external blade will be made to penetrate the integuments and skull at every point of surface exposed to their action.

In cases of great distortion, it will sometimes happen, that portions of the frontal, temporal, and parietal bones, may be removed in fragments of greater or less magnitude; while the occipital part of the head shall remain fixed above the brim of the pelvis, hitching over the pubis, and beyond the safe reach of the instrument which has been described. It has, therefore, been found expedient, to apply the same principle of purchase to cases of this class in another form of the instrument. The difficulty of applying the first form of the instrument to this description of cases, arises from the direction of its curve in relation to its handles, it being impossible to introduce the external blade immediately behind the symphysis pubis, so as to embrace the occipital portion of the child's head resting there, without producing dangerous pressure with the handle upon the perineum and os coccygis.

The instrument of the second form is therefore so constructed, as to obviate this difficulty. The blade part is precisely the same with that part of the first; (here is to be understood the whole of the curved part of the first instrument;) but at the termination of the curve, where each handle and blade may be supposed to meet, (allotting to the handle a much larger portion of either half of the instrument than is covered with wood,) the handles of the second instrument are made to bend considerably backwards in the direction of the convex surface of the external blade; so as to enable the practitioner to introduce both blades of his instrument perfectly and safely, and embrace the occipital part of the child's head, which is supposed to be wedged in a state of arrest, immediately behind and above the pubis, without the necessity of disturbing the perineum and the parts adjacent with the handle of either part of the forceps. This form of the instrument may be called the doubled curved craniotomy forceps. In a very large majority of unfortunate cases requiring the operation of craniotomy, the delivery will be satisfactorily completed by the abundant power over the form of the head and the resistance made to its descent by the first firm grasp and steady pull of the instrument which has been first described.

The external part of each instrument, measured singly, is considerably longer than its corresponding or antagonizing internal part. In the instrument with the single curve, this is more remarkably the case than in the other, arising from the circumstance of its describing necessarily a segment of a larger circle than its antagonist.

It is intended here, however, to request attention more particularly to the extremity of the grasping part of each half of the instrument. The termination of the external part of each form of the instrument is lengthened out about one half or three quarters of an inch beyond the brim anteriorly of its receptacle in the blade, and therefore so much beyond the extreme point of the convexity of the internal part of the instrument.

Persons, who are familiar with cases of distortion, will be able to attest the correctness of the remark, that what is called obliteration of the orifice of the uterus, would never take place in many instances for want of the ordinary pressure upon it from above; there being no room above the pelvis to put it upon the full stretch of distension. In a proportion therefore of such melancholy cases, a part of the unobliterated lip or orifice of the uterus will be found hanging down loose and pendulous into the vagina. Now the extremity of the external part of the instrument is lengthened out, as described, beyond its internal antagonist, for the purpose of carrying before it, and by that means of removing beyond the purchase of its own grasp, any unobliterated part of the os uteri which may present itself during the operation*.

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* Dr. Davies was presented with the gold medal of the Society of Arts, for this invention. It may be useful to mention that the person who made Dr. Davies's instrument, is M. T. Batscham, 35, Worship-street, Finsbury-square.

MEDICAL JURISPRUDENCE.

This is a branch of medical science of great importance, and to which we have been most anxious to call the attention of our readers; but, from the great length to which this *Retrospect* has already extended, we must withhold the particular observations we had prepared on the subject, till we draw up our analysis of Mr. Marshall's *Remarks on Arsenic*[*], which have just issued from the press, but came too late into our hands to form a part of our present Report. Under this head, therefore, we shall merely notice a very few facts, the general knowledge of which may prove useful.

Some interesting experiments have been made by M. Mangili on the venom of the viper, which prove that it does not become mortal under ordinary circumstances. From his experiments he concludes—1. that ammonia is the chief remedy against the bite of the viper; 2. that the vital powers alone may in some cases be sufficient to overcome the effects of the poison; and, 3. that musk and opium are insufficient remedies, and ought never to be preferred to ammonia.

Brugnatelli has employed Iodine as a test for discovering the presence of *oxide of arsenic* and of *corrosive sublimate*. He adds as much iodine to recently boiled starch as will give it a blue colour, and then dilutes it with pure or distilled water, so as to form a beautiful azure tincture. If a few drops of an aqueous solution of oxide of arsenic be added to this azure solution of starch, the blue tincture will instantly acquire a reddish hue (*roussatre*), and afterwards be altogether dissipated; but the addition of a few drops of sulphuric acid will again restore the blue colour. The blue colour is destroyed in the same manner by corrosive sublimate; but cannot be restored by any acid[†].

Cases of the poisonous effects of the oxalic acid are frequently occurring. It has been suggested that it is from the magnitude of the quantity taken that is deleterious. Would not citric, tartaric, malic, and other vegetable acids, be equally noxious in large quantities[‡]? is a question which has been asked, and is certainly one of considerable moment: but from the form of their crystals, and other circumstances, even admitting that they are poisonous, these acids are less liable to be productive of such extensive mischief as the oxalic acid. The inquiry, however, ought not to be neglected.

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[*] *Remarks on Arsenic, considered as a Poison, and a Medicine; &c. &c.* By John Marshall, Member of the Royal College of Surgeons, &c. 8vo. pp. 168, London, 1817.

[†] *Giorn. di Fisica*, ix. p. 466.

[‡] *Edinburgh Medical and Surgical Journal*, vol. I. p. 250.

Such is the Retrospect of Medical Science, for the last six months, which our opportunities enable us to present to our readers. We have been more anxious to collect facts than to offer critical opinions; yet we would venture to hope that the sketch we have drawn, imperfect as it is, will serve as a test by which some estimate may be formed of the value of what has been effected; as an aid to practitioners in winnowing the seeds of truth from the chaff of hypothesis and conjecture;—and as a touch-stone, to detect the base coin of empiricism from the sterling gold of true philosophy.

* * *

Synoptical View of the State of the Atmosphere, &c. in London, between the 19th of November, 1816, and the 20th of May, 1817.

From the 20th of November to the 19th of December.—Barometer, highest 30^7; lowest 28^7: — thermometer, highest 48°; lowest 27°:—prevailing winds, S. WSW:—quantity of rain, two inches 10-100ths. In the week from the 3rd to the 10th of December there was an uncommon mortality, without any particular discernible cause.

From the 20th of December to the 19th of January.—Barometer, highest 30^5; lowest 28^9:—thermometer, highest 45°; lowest 28°:—prevailing winds, SW SE: the quantity of rain was very great; but, owing to the breaking of the guage, could not be given.

From the 20th of January to the 19th of February.—Barometer, highest 30^5; lowest 28^8:—thermometer, highest 52°; lowest 32°: — prevailing winds, WSW:—quantity of rain, two inches 69-100ths. A singularly mild temperature during the whole month. The aurora borealis was, in different parts of England, on the nights of February the 8th and 9th, very vivid and singularly beautiful.

From the 20th of February to the 19th of March.—Barometer, highest 30^3; lowest 29: —thermometer, highest 57°; lowest 32°: — prevailing winds, W. SW: —quantity of rain, one inch 26-100ths.

From the 20th of March to the 19th of April.—Barometer, highest 30^6; lowest 29^8:—thermometer, highest 58°; lowest 30°: — prevailing winds, SW and NE:—quantity of rain, one inch 12-100ths.

From the 20th of April to the 19th of May.—Barometer, highest 30^5; lowest 29: — thermometer, highest 66°; lowest 34°: — prevailing winds, NE and SW: — quantity of rain, 24-100ths of an inch.

A Nosological Table *of the aggregate of the Cases recorded, in the Monthly Registers of the* Repository, *of the* Diseases of London, *between the 20th of November* 1816, *and the* 19*th of May* 1817.

CLASS I. PYREXIÆ.	Nov. Dec.	Dec. Jan.	Jan. Feb.	Feb. Mar.	Mar. April.	April. May.	Total.	Fatal.
ORDO 1. Febres.								
Intermittentes	6	15	14	17	15	15	82	
Catarrhales	66	78	89	54	45	35	367	1
Synocha	16	14	14	19	10	21	100	
Typhus *mitior*	11	8	12	16	11	21	82	13
——— *gravior*	4	6	14	8	3	5	40	14
Synochus	28	15	10	22	20	29	124	3
Puerpera	1	3	2		8	1	15	1
Remittentes *infantiles*	28	26	18	23	16	14	125	1
ORDO 2. Phlegmasiæ.								
Phlogosis	14	17	14	20	10	10	85	
Phlegmasia *dolens*		7		2	4	2	15	
Abcessus	13	21	17	22	30	22	125	3
Furunculus	4	8	8	8	4	7	39	
Pernio	34	16	6	8	6		70	
Paronychia	10	4	9	7	6	5	41	
Carbunculus	2	3	2		1	1	9	
Ophthalmia	30	23	56	37	20	27	193	
Phrenitis		1		4		2	7	
Cynanche *tonsillaris*	29	44	36	34	36	28	207	
——— *maligna*	3	1	3	3	4	4	20	2
——— *trachealis*		3		3	1	2	9	1
——— *pharyngea*		3	2	1		1	7	
——— *laryngea*					1		1	
——— *parotidea*	12	12	3	9	6	10	52	
Bronchitis *acuta*	10	10	6	13	9	6	54	7
——— *chronica*	8	20	5	14	12	6	65	3
Pneumonia.	43	54	31	25	22	33	208	39
——— *peripneumonia*	19	19	12	5	5	12	72	3
——— *pleuritis*	21	20	22	4	27	24	118	2
Phthisis *pulmonalis*	45	35	27	41	35	38	221	84
Carditis	1				2	2	5	2
Pericarditis		1					1	
Peritonitis	3	6	6	6	7	6	34	
Gastritis		2	1	1	2	2	8	1
Enteritis	7	3	7	2	8	8	35	9
Hepatitis	10	12	24	11	14	25	96	5
Splenitis *acuta*	1			1	1	3	6	
——— *chronica*					1		1	
Nephritis	6	1	3	4	1	6	21	
Cystitis						1	1	
Lithiasis	4		2	2		3	11	
Hysteritis	2	2	1	2		1	8	
Rheumatismus *acutus*	48	42	42	57	43	48	280	
——— *chronicus*	67	59	60	66	41	39	332	
Cephalæa	4	1	9	13	8	5	40	
Cephalalgia	40	28	38	42	28	32	208	1
Pleurodyne	9	11	10	9	3	8	50	
Lumbago	5	5	3	3		4	20	

ORDO 2. PHLEGMASIÆ, *Continued.*	Nov. Dec.	Dec. Jan.	Jan. Feb.	Feb. Mar.	Mar. April.	April. May.	Total.	Fatal.
Hysteralgia	1	2	2	3		2	10	
Ischias	3		2	2	1	5	13	
Hepatalgia	5	5	13	10	1	4	38	
Neuralgia	2	9	10	11	1	4	37	
Nephralgia	1		5		1	2	9	
Tic Douloureux				1	1		2	
Odontalgia	6	15	18	26	23	25	113	
Otalgia	3	2	8	5	2	6	26	
Podagra	11	14	15	19	12	9	80	
ORDO 3. EXANTHEMATA.								
Variola	30	26	32	26	32	56	202	39
Impetigo *figurata*	2	1	1	1	2	5	12	
——— *sparsa*	4	6			1		11	
——— *erysipelatodes*	3	3	4	4		2	16	
——— *scabida*	7	3		1	6	4	21	
Porrigo *larvalis*	6	5	2	12	12	7	44	
——— *scutulata*	5	3	6	6	1	5	26	
——— *favosa*	3	2	1	2	3	3	14	
——— *decalvans*		1			2	2	5	
Ecthyma	2	2	1	3	4	3	15	
Scabies	56	67	158	83	84	57	505	
Varicella	18	12	4	6	13	4	57	
Vaccinia	75	50	92	62	82	72	553	
Herpes *zoster*	6	3	4	5	7	4	29	
——— *circinatus*	2	3	1	3	1	2	9	
——— *labialis*	2		2	4		2	10	
——— *præputialis*		2		2	1	1	6	
Eczema	5	1	3	2	3	5	19	
Aphtha *lactentium*	7	12	14	7	14	12	66	
——— *anginosa*	1	1	3	2	2	3	12	
Miliaria	2	1	4	2	2	2	13	
Rubeola	45	34	12	8	12	29	140	11
Scarlatina *simplex*	19	16	12	6		11	64	
——— *anginosa*	7	19	2	5	2	12	47	
——— *maligna*	3						3	1
Urticaria *febrilis*	4	7	4	7	12	7	41	
——— *evanida*	3	3	2	2	4	2	16	
——— *confertus*				1			1	
Roseola	5		4	3	1	4	17	
Purpura *simplex*				1			1	
Erythema *læve*	2	4	8	2	5	3	24	
——— *nodosum*			2	2		2	6	
——— *palpulatum*	2				5	2	9	
Erysipelas	13	14	17	20	17	14	95	2
Pemphigus	6				4		10	
Pompholyx *benignus*						2	2	
ORDO 4. HÆMORRHAGIÆ.								
Epistaxis	14	8	6	8	5	11	62	
Hæmoptöe	19	17	26	19	9	16	106	4
Hæmorrhois	24	18	23	28	23	17	133	
Menorrhagia	38	26	28	22	23	25	162	

ORDO 4. Hæmorrhagiæ, *Continued.*	Nov. Dec.	Dec. Jan.	Jan. Feb.	Feb. Mar.	Mar. April.	April. May.	Total.	Fatal.
Abortus	20	12	16	20	13	16	97	
Hæmatemesis	......	2	1	4	2	4	13	
Hæmaturia	2	......	......	......	......	1	3	
ORDO 5. Profluvia.								
Catarrhus	163	144	122	114	86	70	699	
Coryza	2	3	13	9	......	......	27	
Leucorrhœa	14	16	18	29	13	17	107	
Dysenteria	16	17	13	14	15	8	83	9
CLASS II. NEUROSES.								
ORDO 1. Comata.								
Apoplexia	9	6	7	5	4	8	39	24
Paralysis	15	10	12	10	8	15	70	5
——— *hemiplegica*	14	8	5	5	2	4	38	5
——— *paraplegica*	......	1	2	1	......	1	5	
Tremor	......	......	......	......	1	......	1	
ORDO 2. Adynamiæ.								
Angina *pectoris*	......	......	2	......	......	1	3	
Syncope	5	2	2	3	2	1	15	1
Asphyxia	......	......	......	2	1	......	3	
Asthenia	35	66	35	46	32	33	287	10
Dyspepsia	88	71	91	79	65	68	462	1
Anorexia	6	5	4	14	1	5	35	
Cardialgia	21	15	27	26	23	16	128	
Gastrodynia	28	34	34	35	33	40	204	
Entrodynia	30	20	34	22	26	26	158	
Hypochondriasis	15	10	14	11	5	11	66	
Chlorosis	11	11	15	12	12	9	70	
Icterus	8	8	14	14	6	10	60	
Vertigo	27	18	38	25	23	37	168	
ORDO 3. Spasmi.								
Spasmi	7	22	9	11	6	9	64	
Tetanus	2	......	......	......	......	......	2	
Convulsio	6	10	20	8	13	22	79	12
Chorea	3	2	2	1	6	2	16	
Epilepsia	3	3	6	8	5	8	33	3
Palpitatio	2	2	8	4	3	7	26	
Asthma	89	88	65	71	55	52	420	53
Dyspnœa	29	21	25	25	20	25	143	4
Pertussis	27	36	37	26	23	17	166	
Pyrosis	9	2	4	11	9	7	42	
Ileus	......	......	......	......	......	1	1	
Colica	39	22	22	16	27	20	146	
—— *pictonum*	6	3	7	8	3	5	27	
Cholera	13	19	8	13	12	5	70	1
Diarrhœa	89	72	78	59	67	55	420	3
Diabetes	......	......	2	......	1	......	3	
Hysteria	27	2	14	27	7	12	106	
Strictura	6	14	11	11	13	10	65	

ORDO 4. VESANIÆ.	Nov. Dec.	Dec. Jan.	Jan. Feb.	Feb. Mar.	Mar. April.	April. May.	Total.	Fatal.
Amentia	3	1		2			6	
Mania	7	9	6	7	6	8	43	2
Melancholia	10	7	7	7	7	4	42	2
CLASS III. CACHEXIÆ.								
ORDO 1. MARCORES.								
Tabes	5	6	5	8	10	6	40	11
Atrophia	8	4	3	8	7	4	34	3
ORDO 2. INTUMESCENTIÆ.								
Plethora	7	9	6	5	4	7	38	
FLATUOSÆ.								
Tympanites	1		1				2	
AQUOSÆ.								
Anasarca	20	15	22	21	25	27	130	16
Hydrocephalus	9	7	10	5	6	6	43	29
Hydrothorax	5	8	5	8	4	8	38	10
Ascites	6	11	14	19	5	14	69	12
Hydrocele	2		3	2	1	1	9	
SOLIDÆ.								
Physconia					2		2	
Calculus	2	2	1		1	1	7	
Rachitis	3	1	4	4	2	2	16	
ORDO 3. IMPETIGINES.								
Scrofula	16	11	24	21	23	24	119	
Syphilis	40	27	47	37	49	33	233	
Scorbutus		2		6	2	1	11	
Strophulus *intertinctus*	5	1	4	3	5	5	23	
—— *confertus*	1	3					4	
Lichen *simplex*	4	2	2	5			13	
Prurigo *mitis*	3	5	2	3	1	2	16	
—— *senilis*	5	3	5	4	1	6	24	
Lepra	1	1	1	3	2	1	9	
Psoriasis *guttata*	3	16	3	4	12	3	41	
—— *gyrata*	4			2		3	9	
—— *inveterata*	3	11	3	2	4	6	29	
Pityriasis		3		2		3	8	
Ichthyosis				1			1	
Acne	3	6	6	2	1	4	22	
Sycosis *menti*	2				1		3	
—— *capillitii*	1					3	4	
CLASS IV. LOCALES.								
ORDO 1. DYSÆTHESIÆ.								
Caligo			2	2	1	1	6	
Amaurosis			2	2	2		6	
Dysopia					1		1	

CLASS IV. LOCALES. ORDO 1. DYSÆTHESIA. *Continued.*	Nov. Dec.	Dec. Jan.	Jan. Feb.	Feb. Mar.	Mar. April.	April. May.	Total.	Fatal.
Dysecöea		1					1	
Paracusis	2		3	2	2	2	11	
ORDO 2. DYSOREXIÆ.								
Bulimia	1						1	
Anorexia	6	5	4	14	1	6	36	
ORDO 3. DYSCINESIÆ.								
Dysphagia						2	2	
Contractura	1			2			3	
ORDO 4. APOCENOSES.								
Profusio						2	2	
Enuresis	9	1	4	4		4	22	
Gonorrhœa	18	22	24	21	24	29	141	
ORDO 5. EPISCHESES.								
Obstipatio	36	36	43	40	19	28	202	2
Ischuria	2	2	4	2	5	2	17	1
Dysuria	12	5	10	14	7	7	55	1
Amenorrhœa	27	22	26	24	31	30	160	
ORDO 6. TUMORES.								
Aneurisma	1				2		3	2
Scirrhus	3	3	1	2	1	2	12	1
Cancer	7	6	4	2	3	2	24	4
Polypus	1			1		2	4	
Hydrarthyrus	2					2	4	
Exostosis	2					1	3	
Bronchocele	2		1	1		1	6	
ORDO 7. ECTOPIÆ.								
Hernia	4	9	8	9	6	9	45	
—— *humorrhalis*				2			2	
Prolapsus	6	8	5	4	1	2	26	
ORDO 8. DIALYSES.								
Fungus		2		5	1	2	10	
Fistula	2	4	2	2	3	4	17	
HETEROCLITES.								
Dystochia	3		2			3	8	
Vermes	22	28	39	36	39	30	194	
Morbi *Infantiles*	103	104	111	95	100	96	609	21
—— *Biliosi*	66	62	77	65	79	70	419	
Totals	2533	2385	2578	2453	2164	2201	14314	508

Recapitulation of the Number of Cases in all the Genera of Diseases recorded in the Monthly Registers, between the 19th of November 1816, *and May the 20th* 1817.

		Cases.	Fatal.
From 19th of November to the 20th of December 1816,		2533	92
—— December 1816	—— January 1817,	2385	86
—— January	—— February ——	2578	92
—— February	—— March ——	2453	78
—— March	—— April ——	2164	75
—— April	—— May ——	2201	85
		14,314	508

PART I.

ORIGINAL COMMUNICATIONS.

I.

A General View of the Diseases usually occurring in Boys during the Period between Infancy and Puberty in Christ's Hospital, exhibited in a Synoptical Table, and accompanied with practical Observations. By HENRY FIELD, Member of the Society of Apothecaries, London, and Apothecary to Christ's Hospital.

(Continued from Vol. VII. p. 282.)

TABLE OF DISEASES.	1817. Mar.	1817. Apr.	1817 May.
1 Cynanche tonsillaris	2	1	2
2 Scarlatina anginosa	2	1	6
3 Febris Synochus	3	4	1
4 —— Typhus	1	.....	.....
5 —— Mesenterica	.....	1	.....
6 Tabes mesenterica	1	.....	.....
7 Tussis Catarrhalis	.....	1	1
8 Pleurodyne	1	.....	.....
9 Nausea, Gastrodynia vel Diarrhœa	1	9	5
10 Obstipatio	.....	1	.....
11 Rheumatismus acutus	.....	1	.....
12 Odontalgia Catarrhalis	1	.....	1
13 Obstipitas Catarrhalis	.....	1	2
14 Cephalæa	.....	.....	1
15 Parotis benigna	.....	1	.....
16 Gastritis exanthematica?	.....	.....	1
17 Urticaria	2	2	.....
18 Prurigo mitis	.....	1	1
Totals	14	24	21

THE early part of the spring season was mild. The latter end of April and the whole of May have been colder than usual. The weather was uncommonly dry until the middle of May, when much rain fell, to the great benefit of vegetation, which, prior to it, was exceedingly retarded.

Several instances of scarlatina anginosa have occurred, all of which were of a mild description. The case of typhus fever commenced with early symptoms of an alarming nature, and discovered almost from the first attack very great danger. The Boy, G. W., was about twelve years of age, had been removed from Hertford only a day or two, and sunk under the disease about the fourteenth day.

J. H. aged fourteen years and a half, was received into the Infirmary in the last week of January. This disease soon became strongly characterized as an affection of the mesenteric glands, accompanied with a considerable degree of fever, and an abdomen unusually hard and tumid. Notwithstanding every means employed for his relief, these symptoms continued to increase, while his body became proportionally emaciated, and his strength greatly diminished. About the latter end of March he became universally dropsical, in the form of ascites and anasarca; both of which, however, gave way to the remedies employed, and in a week or two almost entirely disappeared; nature then began to rally, and there were flattering appearances of convalescence. In this state he was removed to the residence of his father, near Canterbury; where, as I am informed, he was considered for some days to be going on very favourably: but about a week after his arrival there, he was suddenly attacked with some kind of fit, and very soon expired.

The case of tabes mesenterica, mentioned in the report for March, was that of C. S. aged fourteen years. His symptoms were very similar to those of the former patient, excepting that no appearances of dropsy occurred. He was removed by his friends into the country about the middle of May; but no amelioration of the disease followed, and he gradually sunk under it.

A case came under treatment during the month of May, the symptoms of which were so unusual, as to render its classification doubtful; it has, therefore, been included in the table for that month with a note of interrogation. The patient was R. C. about twelve years of age: having been lately removed from Hertford, his former state of health does not appear; but there is reason to believe that he has always been of an inactive disposition, and his faculties dull and weak. He was brought to the Infirmary on the 6th of May: his early symptoms were drowsiness, sickness of stomach, and much debility; he complained but little of pain: it was soon discovered that his mouth was sore, which, in the space of two or three days, increased so much, as to give the whole internal surface of that and the fauces the appearance of being studded with sloughy ulcers, and deglutition was much impeded. Though he was at one time almost constantly asleep, yet, when roused from it, his answers were perfectly sensible. His bowels, though somewhat confined, yet were easily acted upon by mild laxatives. During the progress of the disease the drowsiness abated: but he was then at intervals delirious; his pulse was quickened, though seldom greatly accelerated. About this time he complained of pain in the epigastric region, which, however, was much relieved by the application of leeches to the pained part, and a subsequent blister. On the fifth or sixth day of the disease, an almost incessant and very distressing cough came on; his vomitings were then very frequent; and his general appearance was such, that there was great reason to believe he must soon sink under it. But the contrary was the event: an early amendment then took place, the ulcers in his mouth put on a healthy aspect, every unpleasant symptom subsided, and on the 26th of May he was so far recovered as to be removed to Streatham for the benefit of country air, where, I understand, he continues at this time (June the 11th) progressively improving in health. In addition to the remedies already mentioned, the warm-bath was employed. Castor oil as a purgative, and various saline sedatives, were given, also æther and ammonia under circumstances of lowness and depression. Blisters were applied behind the ears, and boracic gargles to the mouth and fauces; but the medicine which appeared to render most service, was tincture of opium, (given in an oily emulsion as a vehicle,) of which he took daily, for several days together, from twenty to twenty-five drops in divided doses. It was begun at the period above mentioned when the cough and vomiting were excessive, and its beneficial effects in allaying those irritations were very striking.

To speak with certainty as to the nature of the disease in question would be impossible; but there appears great probability that it was what Dr. Cullen terms an erythematic inflammation of the stomach. The symptoms detailed by that author bear a very strong resemblance to the case before us. Drowsiness or delirium are not mentioned by him in connection with this species of gastritis; but the well-known sympathy between that organ and the brain may sufficiently account for their occurrence, especially since there seems to have been no original affection of the latter, though the early symptoms of the disease were calculated to excite at first some suspicion of hydrocephalus.

Burserius, in his "Institutiones Medicinæ Practicæ," treats largely on gastritis, though his account of it applies more to the true or phlegmonic species of that disease than to the erysipelatous gastritis. He enumerates both delirium and convulsion as symptoms of the higher degrees of it.

Sauvages gives a brief description of this disease under the name of gastritis exanthematica. He appears to consider it as not well ascertained; for he expresses a wish, that such persons who may have an opportunity of seeing it, would give it their particular attention, and would note the symptoms, in order, as he says, to improve our knowledge on the subject.

II.

The History of the Human Œconomy. By a Member of the Royal College of Physicians in London.

The works of Nature consist of animate matter, and of inanimate matter. Animate matter is matter endowed with that something which we call life; and under it are comprised, the vegetable and the animal kingdoms. Life, when united to matter, is not always manifest; in the seed of a vegetable or in the egg of an animal, it exerts no energy, but that whereby it prevents the component elementary parts of such seed or egg from yielding to the laws of chemical affinity. A seed or an egg, when placed under those circumstances, which their several natures require, will, if endowed with life, furnish a vegetable or an animal similar to those from which such seed and egg were derived; but if the seed or egg have lost or have been deprived of its life, no process can make it furnish a vegetable or an animal; for its component parts being freed from restraint, will yield to the laws of chemical affinity, and will form new combinations. A vegetable or an animal furnished by a seed or egg, is an organized body endowed as its primitive germ with life, performing various functions, and being capable of assimilating other matter to itself. The animal and the vegetable thus produced, will retain its life for a greater or a less period of time; after which, it will lose its life, and its constituent parts will then yield to the laws of chemical affinity, and becoming disunited and decomposed, they will form new combinations. A vegetable or an animal may be deprived of life at any period of its existence. A vegetable and an animal are each then organized matter endowed with life. The orgaized body of the animal thus endowed with life, is inhabited by something equally invisible as life, which something receives various degrees and kinds of feeling from various impressions made upon the body, and which possesses and exercises various powers; this is the sentient principle, the mind. The mind varies in the degree and in the extent of its powers, not only in different animals, but in animals of the same tribe, and also in the same animal under different circumstances and conditions of the animal. An animal then is an organized body, endowed with life and inhabited by mind. The mind of living man possesses powers so vastly superior to those possessed by the mind of any other animal, that it entitles him to a distinct and separate place in the works of creation. The body of man consists of a structure calculated to give it lightness, combined with firmness and solidity, and to admit of various motions and changes of position. Such is the structure furnished by the bones and cartilages with their joints and ligaments. Attached to this structure are fibrous masses of various extent and thickness, called muscles; by the contractions of whose fibres, the different motions of the body are produced.

There are distributed throughout the body two systems; one of these is the nervous system, which consists of the cranial and the spinal brains, and of an infinite assemblage of white cords connected with these, which cords are called nerves. The other system consists of the heart, arteries, veins, exhalents, secreting structures, absorbents, and the several fluids contained in these several vessels; and it may be termed the system of supply and waste. Through the nervous system, the mind takes cognizance of impressions which are made upon the body; through the nervous system certain impulses are communicated to different parts of the body, regulating and influencing their functions and actions. The system of supply and waste receives fresh matter for the use of the body; prepares and distributes such matter, and removes and rejects matter from the body. One of the offices of the nervous system is the transmission of a power which has received various titles, and which we may call the nervous power. This power, when conveyed to muscles, produces contraction of their fibres; it is a power distinct from life, for life may exist in a part to which the nervous power is not conveyed. The mind has been spoken of as inhabiting a living organized body; but it is not merely an inhabitant; it is closely and intimately connected with the living body; the functions of the body influencing those of the mind, and the functions of the mind influencing those of the body. The properties of the mind are various and numerous. When through the nervous system it takes cognizance of an impression made upon the body, such impression is said to excite sensation; sensation is the cognizance which the mind takes of impressions. The various actions of the mind within itself are called its faculties; the various states and affections of the mind arising from its various sensations, and from the exertion of its several faculties, are called its passions.

Although the organization of the living body of man is, in its essential and more apparent characters, alike in each individual of the same sex, yet we find that the body is somehow or other differently constituted and differently endowed in different men, so that what is to one man a healthy state and a healthy action of the body and of its parts, would in another man constitute disease. This peculiar state of each individual is called his habit, his temperament, his constitution. The mind has also its temperaments, for it varies in the degree and in the extent of its powers in almost every individual. The character of the mind, as relating to its faculties, we term its genius; as relating to its passions, we call it disposition; and as relating to sensations, we give it the name Perception. In what the difference of the constitution, or temperament of the living body of man consists, we cannot strictly determine. Whether the degree of life with which it is endowed may vary in different individuals, is a question which we may ask, but not answer. If there be a varied degree of endowment of life, such varied degree being connected with varieties of organization, too minute for human investigation, these acting upon, and being acted upon by the mind, may constitute the varied shades of temperament of body, and may give a character to the genius, to the disposition, and to the perception. The sensations depend upon the part of the body impressed, and upon the thing impressing. Thus certain impressions made upon the membrane of the nose produce the sensation called smelling; other impressions upon the optic nerve produce the sensation called seeing; other impressions upon the internal ear produce the sensation called hearing; and other impressions upon the tongue and palate produce the sensation called tasting; and other impressions made upon all these several parts, as well as upon all other parts possessing nerves, will produce that universal sensation which is called feeling. When an impression upon any part of the body has produced a corresponding sensation in the mind, if that impression cease, the sensation excited by it commonly ceases also, the mind passing from one sensation to another, according to the succession of impressions which are made upon the body. When an impression has excited sensation; when that impression has ceased, and when the sensation excited by it has ceased also; and when other succeeding impressions have severally excited corresponding sensations; yet, although that first impression be not repeated, the sensation excited by that first impression may be present at various times, and at various periods, after it was first and originally excited. When a sensation, which has formerly been produced, presents itself again to the mind, without a repetition of the impression which produced it, such sensation is seldom as powerful or as perfect as that sensation originally was. The mind has a faculty of recurring to or recalling a past sensation, and when such past sensation again presents itself, it is frequently accompanied or followed by those sensations, or by those passions by which such past sensation, when originally excited, was preceded, accompanied, or followed. So if a sensation have formerly been excited by an impression, which impression, as well as the corresponding sensation, have long since ceased, if that impression be repeated, and excite sensation, this second sensation being similar to that former sensation, may cause the mind to refer to such former sensation;

and if such former sensation re-appear to the mind, there may arise with it those sensations also, and those passions, by which that former sensation, when excited originally, was preceded, accompanied, or followed. In these cases the mind perhaps only glances, as it were, over the former original sensation, while it passes on and rests upon the sensations and the passions which are suggested by it.

Sensations consist of various degrees of what is called feeling, and of those peculiar modifications of feeling which are known by the names seeing, hearing, tasting, smelling. The faculties of the mind are judgment, thought, reflexion, memory, recollection, fancy, invention, and the like. The passions are joy, love, pride, rage, grief, fear, hatred, shame, envy, and the like. The mind has not the power of attending closely to different subjects at the same time. It cannot order and direct accurately two different and distinct actions of the body, and attend closely to each at the same time. It cannot attend closely and accurately to two distinct and different sensations at the same time. It cannot exercise powerfully two distinct faculties at the same time. It cannot be occupied with two distinct passions at the same moment. If the mind be closely engaged in directing actions of the body, it pays but little attention to sensations, and its passions and its faculties are more or less quiescent. If it be occupied by a sensation, other sensations are slightly attended to, or are disregarded, and all other actions of the mind are more or less suspended. If the mind be engrossed by the exercise of a faculty, the sensations are neglected, and its other actions are more or less suspended. If one preponderating passion occupy the mind, those sensations only, will probably be attended to which are connected with that passion, other passions will not be present, nor will the faculties be exerted. Thus we see that the mind does not always take cognizance of impressions which are nevertheless capable of exciting sensations. If the mind does not take cognizance of an impression, the corresponding sensation will neither be presented to the mind nor suggested to it at a future period. In the absence of present impressions the mind recurs to past sensations, and it attends more or less closely to these in proportion as its faculties are more or less quiescent; thus in sleep, past sensations appear very strong and vivid, so as to be mistaken for present sensations. Sensations depend much upon the temperament of the mind, on its genius, its disposition, and its perception. Sensations affect the mind with pleasure, or they are unpleasant, or they are regarded with indifference; the effect of them depends much upon the passions which they give rise to, upon the passions which similar sensations have at other times given rise to, upon other effects of similar former sensations, and of other suggested sensations, and also upon the state of the faculties. Judgment is a review of past and of present sensations and passions, by which review the mind determines upon the probable consequences of such sensations and passions, and upon the passions which the suggestion of such sensations may at a future time give rise to. Thought is the steady contemplation of past or of present sensations and passions, and the anticipation of future sensations and passions. Reflection is the contemplation of past or of present sensations, and also of the passions which have been connected with them, as well as of the manner in which the faculties have been exercised upon such sensations and passions, whereby the mind determines upon the propriety of such sensations, passions, and such exercise of faculties, or upon the advantage that has attended or followed these, or may attend or follow a similar repetition of these; from which determination the mind forms plans either for a repetition of similar sensations, passions, and exercise of faculties, or for avoiding these, or for in any way altering a part or the whole of them. Memory is the re-appearance to the mind of those individual sensations and passions which have formerly been excited. Recollection is the power of summoning the re-appearance of past sensations or passions. Fancy is an exercise of the mind, whereby it creates to itself sensations without the intervention of impressions, the materials for such creation being chiefly more or less furnished by the recollection, or it is the mistaking past sensations for present ones. Invention is that faculty whereby the mind discovers new modes of exciting sensations and passions, either by new exertions of its own powers, or by directing new associations of matter external to its own body, or by directing the application of the laws of nature to matter, in a manner different from that in which they have before been applied.

From this very imperfect definition of the faculties it will appear, that they are much connected with, and that they depend much upon each other. The faculties are strengthened by frequent exercise. The passions are the results of sensations, and of the reciprocal influence of the sensations upon the faculties, and of the faculties upon the sensations; the same sensation will, under different circumstances, excite different passions, according as the mind is more or less occupied by certain passions, or as one or other faculty is more or less powerfully exerted, or according to the sensations which are suggested by such sensation.

(To be continued.)

III.

Some Observations relative to the new Method of extracting the Cataract as proposed by Dr. Löbenstein Löbel. By EDWARD CHAPMAN, Surgeon, Bath*.

ABOUT six months prior to the date of this communication, on considering the many objections which may, with propriety, be urged against the operation of extracting the cataract through an aperture caused by a circular incision of the transparent cornea; an idea suggested itself to me, whether or not there existed a possibility of removing the opaque lens, by means of an incision through the schlerotic and choroid coats, at a few lines distant from the junction of these tunics, with the cornea itself.

In order to ascertain the practicability of such an operation, and no opportunity immediately occurring to me of making the experiment on the eye of the subject, previous to its removal from the orbit, I obtained the eyes of various quadrupeds, and on such, made frequent trials in the presence of several medical friends.

From these experiments, the facility with which the crystalline humour will admit of removal from such a situation was established; and I anticipated the pleasure of communicating to the profession the particulars of an operation, possessing on the one hand all the advantages, and obviating on the other those several disadvantages, of the present method of extraction.

1st. The important objection arising out of the probability of the subsequent partial or total opacity of the transparent cornea as a consequence of inflammation.—2ndly. The serious injury which not unfrequently is occasioned to the iris, in the passage of the opaque chrystalline lens through its aperture or pupil into the anterior chamber.—3dly. I had conceived that an eminent advantage would result from the probability that the divided parts would more speedily unite in consequence of the certainty with which the edges of the incision would remain in contact subsequently to the operation.—And, 4thly, That a possibility of thus removing the opaque lens by extraction would be afforded, although union should have previously taken place between the fibres of the iris while in a state of dilatation and the capsule of the lens, the pupil having in such cases commonly sustained a partial obliteration or diminution of diameter.

Notwithstanding however the very flattering view which I had taken of this subject, as the effect of the extremely favourable nature of the inferences deducible from my experiments, I determined to give the subject further consideration; reflecting, that as the experiments had hitherto been confined to the eyes of oxen, sheep, &c. there might possibly exist some trifling difference in the relative situation of the parts, with respect to the human eye.

The determination which I then formed, I have since experienced no reason for regretting; for, in opportunities which have very frequently, within a short period, been afforded me of repeating similar experiments on the human eye, previously to its removal from the orbit, the results very materially differed; inasmuch, as that the degree of difficulty which was experienced in effecting the removal of the lens was very considerably increased; indeed it occasioned to me such disappointment that I became somewhat discouraged from proceeding any further in the investigation.

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* We believe this paper has appeared in a contemporary Journal; but we could not, according to our rule of impartiality, give it an earlier insertion.—EDITORS.

In performing the operation on the subject, (the eye yet remaining in the orbit,) I made an incision through the schlerotic and choroid coats, at a few lines distant from and parallel to the edge of the cornea, to the extent of about one half or two thirds of an inch; with the extremity of the instrument having lacerated the capsule of the chrystalline lens, the knife was withdrawn; but, although a very considerable degree of pressure was made upon the globe of the eye, such pressure was not, as might have been expected, followed by the escape of the lens itself. I found, that in consequence of the toughness and inelasticity of the choroid and schlerotic coats, it was necessary, before such an effect could be produced, that the length of the incision should be increased. I therefore enlarged in a very inconsiderable degree the extent of the incision, and with the application of a very gentle pressure the lens escaped; not however alone, but unfortunately accompanied by a portion of the vitreous humour.

I have several times since repeated this experiment, and from the sum of the results which they have afforded, have found sufficient reason for the conclusion, that although an opening be made in this situation less in extent than is sufficient to admit of a partial protrusion of the vitreous humour, yet it is impossible without making use of a degree of pressure which would be incompatible with the subsequent maintenance of vision in the organ, to effect the removal of the opaque lens.

I can assign no other cause of such difficulty being experienced in effecting its passage through an opening less extensive than the unyielding and inelastic property of the tunics, in conjunction with the acknowledged difficulty which the lens, being of a convex form, must necessarily experience in its passage through a merely lineal aperture or section by incision.

To obviate the objection occasioned by this latter circumstance, I have since tried the effect of varying it, by accommodating the form of the aperture to the lens. Such a variation in the form of the incision, I have not found attended with any advantage, in consequence of the smallness of the distance betwixt the edge of the iris, and the capsule of the vitreous humour.

From these circumstances, which appear to be incapable of remedy, I had resolved not to trouble you with any communication on the subject, or even with a relation of my experiments; and from such a resolution should not have deviated, had I not to my utter astonishment, on reading a recent number of the Edinburgh Medical and Surgical Journal, seen a proposal to the same effect communicated by Dr. Von Embden, wherein it appears that the supposed discovery was made by Dr. Löbenstein Löbel, from an accidental occurrence.—In conclusion I have to observe, that my

ORDO 4. VESANIÆ.	Nov. Dec.	Dec. Jan.	Jan. Feb.	Feb. Mar.	Mar. April.	April. May.	Total.	Fatal.
Amentia	3	1		2			6	
Mania	7	9	6	7	6	8	43	2
Melancholia	10	7	7	7	7	4	42	2
CLASS III. CACHEXIÆ.								
ORDO 1. MARCORES.								
Tabes	5	6	5	8	10	6	40	14
Atrophia	8	4	3	8	7	4	34	13
ORDO 2. INTUMESCENTIÆ.								
Plethora	7	9	6	5	4	7	38	
FLATUOSÆ.								
Tympanites	1		1				2	
AQUOSÆ.								
Anasarca	20	15	22	21	25	27	130	16
Hydrocephalus	9	7	10	5	6	6	43	29
Hydrothorax	5	8	5	8	4	8	38	10
Ascites	6	11	14	19	5	14	69	12
Hydrocele	2		3	2	1	1	9	
SOLIDÆ.								
Physconia					2		2	
Calculus	2	2	1		1	1	7	
Rachitis	3	1	4	4	2	2	16	
ORDO 3. IMPETIGINES.								
Scrofula	16	11	24	21	23	24	119	
Syphilis	40	27	47	37	49	33	233	
Scorbutus		2		6	2	1	11	
Strophulus *intertinctus*	5	1	4	3	5	5	23	
——— *confertus*	1	3					4	
Lichen *simplex*	4	2	2	5			13	
Prurigo *mitis*	3	5	3	3	1	3	18	
——— *senilis*	5	3	5	4	1	6	24	
Lepra	1	1	1	3	2	1	9	
Psoriasis, *guttata*	3	16	3	4	12	3	41	
——— *gyrata*	4			2		3	9	
——— *inveterata*	3	11	3	2	4	6	29	
Pityriasis		3		2		3	8	
Ichthyosis				1			1	
Acne	3	6	6	2	1	4	22	
Sycosis *menti*	2				1		3	
——— *capilitii*	1					3	4	
CLASS IV. LOCALES.								
ORDO 1. DYSÆTHESIÆ.								
Caligo			2	2	1	1	6	
Amaurosis			2	2	2		6	
Dysopia					1		1	

raying, that some regulation may be introduced in the Bill
ing relative to the Poor Laws, for medical attendance
ual poor.
C. Hebb, *Secretary.*

II.—MISCELLANEOUS.

ORS *the* London Medical Repository.

icing my Physiological Nosology, p. 496 of
point out an omission of Species under the
ne remark does credit to the accuracy of your
were unfortunate in having been supplied with an
of the work. The fact is, that the text was first
uch an oversight, which I detected on the day of its
and immediately ordered the leaf to be erased and its
ed by a cancel: nor was I aware, till I saw your account,
gle copy of the work was in general circulation without
cel, a copy of which is herewith inclosed for your use; and
n, possibly, you may think it right to transcribe into your next
mber, if you should find room. The more so, as I have taken the
pportunity it has afforded me, of correcting, at the same time, an
accidental error respecting the genus Ulcus, which you will find
in p. 497 of your Repository, has escaped your own attention.

I will be obliged to you also to add, that if there should be any other person in possession of a copy of the Nosology without the corrected leaf, he may have it gratuitously on application to my Bookseller, Mr. Cox, of St. Thomas's Street, Borough.

I remain, Gentlemen, your obedient servant,

Caroline Place, June 16, 1817. J. M. Good.

" *GENUS V.* ALPHOSIS.—Cuticle dead white; pupils rosy; corporeal powers weak.

" 1. Æthiopica. Hair white, and woolly; irids white; sight strongest in the shade. Found among negroes.

Æthiops. *Plouquet.*
Albor cutis. *Plenck.*
Weisselaut. G.
Albino.

" 2. Europæa. Hair flaxen and silky; irids rosy. Found among Europeans, and other white nations.

Trail in Nicholson's Journ. of Nat. Phil. See also *Blumenbach,* Med. Bibl. ii. 537. *Le Cat,* Traité de la Couleur de la Peau Humaine. *Phil. Trans.* passim.

" Gen. V. Alphósis. The character of the genus and species is drawn up from the description of Saussures, Maupertuis, Bazzi, and Blumenbach. The whiteness is probably produced by a want of the secretion of the pigment that among negroes renders the rete mucosum black; and which does not usually take place till several weeks, sometimes months, after birth; the negro-child being fair when first born. The Spaniards and Portuguese denominate those who are thus affected *Albinos;* the French, *Blafards;* the Dutch, *Kacklacken.*

" As the present page is a cancel, and has consequently been worked off after the rest of the volume, the author takes the opportunity of requesting his reader to correct the numerals of the specific names under the genus Phyma, p. 164, from 2, 3, 4, to 1, 2, 3: and to give to the names of the species and varieties under Ulcus, p. 247, a neuter instead of a masculine termination, as *vitiosum, cal-*

losum, &c.: the author having at first employed a masculine noun instead of [illegible]; and it having escaped his attention to make the necessary emendation on a change of the generic term. He has also to entreat the reader's correction of a few other errors that will occasionally occur to him, chiefly typographical, and mostly in the accentuation, and the use of a large or small capital in the commencement of certain specific names: it being uniformly intended to employ a large capital whenever a new species is distinguished by the name of an old genus, or a substantive of a similar kind in the nominative case; and never otherwise.

A METEOROLOGICAL TABLE,

From the 21st of May to the 20th of June 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.		Barometer. Min.		Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29	30	29	13	59	39	01	NNE..	1 Sun. 3 Cy... 4 Rain.
22	29	15	29	15	56	42	06	NW.	1 Cloudy.. 2 Rain.
23	29	17	29	15	64	36		Vble.	1 Sun. 4 Moon..
24	29	24	29	18	60	35		S.SW.	1 3 S... 2 Cy.. 4 Mn...
25	29	20	29	08	68	43	02	NW..NE..	1 Sun.. 3 Mist.. 4 R....
26	29	20	29	17	57	43	24	NNE.	1 Rain.. 3 Cy.. 4 Mist..
27	29	42	29	38	65	40		NbE..	1 Sun...
28	29	47	29	47	51	41	55	N..	1 Mist... 3 Rain....
29	29	59	29	58	53	39		NbE...	1 3 4 Cloudy... 2 Sun.
30	29	64	29	60	54	35		N..	1 Sun. & Sh. 3 Sun..
31	29	53	29	45	59	39		NW..NE..	1 Sun.. 4 Cloud..
1	29	43	29	37	63	45		NE..SW..	1 3 Sun... 2 4 Cy..
2	29	28	29	19	68	44	08	SW..	1 3 Cy.. 2 Sun.. 4 Rain.
3	29	26	28	90	63	47	19	SW..	1 S. & Sh. 2 S.. 4 R.
4	29	45	29	37	61	44	05	SW...	1 Sun.. 3 Showers.
5	29	56	29	53	66	47		SW...	1 Sun...
6	29	58	29	48	69	50		SW..	1 Sun..
7	29	42	29	32	74	51	15	SW..	1 Sun.. 3 Rain..
8	29	42	29	39	65	45		SW..	1 Sun..
9	29	40	29	39	72	49		SW.SSE	1 Sun.. 2 Cloud..
10	29	62	29	58	70	42	01	NW..Vble.	1 S.. Sh. & Th.. 2 S..
11	29	60	29	40	66	48	19	W..SW..	1 Sun... 3 Cloud.. 4 R.
12	29	30	29	30	63	45		SE.SW..	1 Cloud... 2 Sun..
13	28	84	28	73	62	49	86	SE..	1 Cloud.. 2 Rain....
14	29	63	29	41	61	45		SW..NW..	1 Sh. 2 Sun.
15	29	91	29	80	66	40		W..	1 Sun..
16	29	84	29	75	72	50		S..	1 Sun..
17	29	66	29	53	71	43		SSE..	1 Sun...
18	29	38	29	35	72	49		NW..NE..SE..	1 Sun....
19	9	53	29	52	79	58	2	SE.	1 S.... 3 Th.... Lt.... R
20	29	62	29	57	78	55		NW.ENE..	1 Sun.... 3 Th.. 4 M..

The quantity of rain during the month of May was 2 inches 19-100ths.

Observations on Diseases at Richmond.

The disorders that have been under treatment in this last period, were Asthenia, Cynanche Tonsillaris, Diarrhœa, Dysmenorrhœa, Dyspepsia, Dysuria, Epistaxis, Febris Catarrhalis, Febris Puerperalis, Febris Typhodes, Gastrodynia, Hæmaturia, Icterus, Mania, Menorrhagia, Obstipatio, Ophthalmia, Phthisis Pulmonalis, Pneumonia, and Rheumatismus.

ment, praying, that some regulation may be introduced in the Bill now pending relative to the Poor Laws, for medical attendance upon the casual poor. C. Hebb, Secretary.

II.—MISCELLANEOUS.

To the Editors *the* London Medical Repository.

Gentlemen, In noticing my Physiological Nosology, p. 496 of your last Number, you point out an omission of Species under the genus Alphosis. The remark does credit to the accuracy of your reading: but you were unfortunate in having been supplied with an imperfect copy of the work. The fact is, that the text was first printed with such an oversight, which I detected on the day of its publication; and immediately ordered the leaf to be erased and its place supplied by a cancel: nor was I aware, till I saw your account, that a single copy of the work was in general circulation without this cancel, a copy of which is herewith inclosed for your use; and which, possibly, you may think it right to transcribe into your next Number, if you should find room. The more so, as I have taken the opportunity it has afforded me, of correcting, at the same time, an accidental error respecting the genus Ulcus, which you will find in p. 497 of your Repository, has escaped your own attention.

I will be obliged to you also to add, that if there should be any other person in possession of a copy of the Nosology without the corrected leaf, he may have it gratuitously on application to my Bookseller, Mr. Cox, of St. Thomas's Street, Borough.

I remain, Gentlemen, your obedient servant,

Caroline Place, June 16, 1817. J. M. Good.

" *GENUS V.* ALPHOSIS.—Cuticle dead white; pupils rosy; corporeal powers weak.

" 1. Æthiopica. Hair white, and woolly; irids white; sight strongest in the shade. Found among negroes.

Æthiops. *Plouquet.*
Albor cutis. *Plenck.*
Weisselhaut. G.
Albino.

" 2. Europæa. Hair flaxen and silky; irids rosy. Found among Europeans, and other white nations.

Trail in Nicholson's Journ. of Nat. Phil. See also *Blumenbach,* Med. Bibl. ii. 537. *Le Cat,* Traité de la Couleur de la Peau Humaine. *Phil. Trans.* passim.

" Gen. V. Alphósis. The character of the genus and species is drawn up from the description of Saussures, Maupertuis, Buzzi, and Blumenbach. The whiteness is probably produced by a want of the secretion of the pigment that among negroes renders the rete mucosum black; and which does not usually take place till several weeks, sometimes months, after birth; the negro-child being fair when first born. The Spaniards and Portuguese denominate those who are thus affected *Albinos;* the French, *Blafards;* the Dutch, *Kackiacken.*

" As the present page is a cancel, and has consequently been worked off after the rest of the volume, the author takes the opportunity of requesting his reader to correct the numerals of the specific names under the genus Phyma, p. 164, from 2, 3, 4, to 1, 2, 3: and to give to the names of the species and varieties under Ulcus, p. 247, a neuter instead of a masculine termination, as *vitiosum, cal-*

losum, &c.: the author having at first employed a masculine noun instead of ULCUS; and it having escaped his attention to make the necessary emendation on a change of the generic term. He has also to entreat the reader's correction of a few other errors that will occasionally occur to him, chiefly typographical, and mostly in the accentuation, and the use of a large or small capital in the commencement of certain specific names: it being uniformly intended to employ a large capital whenever a new species is distinguished by the name of an old genus, or a substantive of a similar kind in the nominative case; and never otherwise.

A METEOROLOGICAL TABLE,

From the 21*st of May to the* 20*th of June* 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.		Barometer. Min.		Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29	30	29	13	59	39	01	NNE..	1 Sun. 3 Cy... 4 Rain.
22	29	15	29	15	56	42	06	NW.	1 Cloudy.. 2 Rain.
23	29	17	29	15	64	36		Vble.	1 Sun. 4 Moon..
24	29	24	29	18	60	35		S.SW.	1 3 S... 2 Cy.. 4 Mn...
25	29	20	29	08	68	43	02	NW..NE..	1 Sun.. 3 Mist.. 4 R....
26	29	20	29	17	57	43	24	NNE.	1 Rain.. 3 Cy.. 4 Mist..
27	29	42	29	38	65	40		NbE..	1 Sun...
28	29	47	29	47	51	41	55	N..	1 Mist... 3 Rain....
29	29	59	29	58	53	39		NbE...	1 3 4 Cloudy... 2 Sun.
30	29	64	29	60	54	35		N..	1 Sun. & Sh. 3 Sun..
31	29	53	29	45	59	39		NW..NE..	1 Sun.. 4 Cloud..
1	29	43	29	37	63	45		NE..SW..	1 3 Sun... 2 4 Cy..
2	29	28	29	19	68	44	08	SW..	1 3 Cy.. 2 Sun.. 4 Rain.
3	29	26	28	90	63	47	19	SW..	1 S. & Sh. 2 S.. 4 R.
4	29	45	29	37	61	44	05	SW...	1 Sun.. 3 Showers.
5	29	56	29	53	66	47		SW...	1 Sun...
6	29	58	29	48	69	50		SW..	1 Sun..
7	29	42	29	32	74	51	15	SW..	1 Sun.. 3 Rain..
8	29	42	29	39	65	45		SW..	1 Sun..
9	29	40	29	39	72	49		SW.SSE	1 Sun.. 2 Cloud..
10	29	62	29	58	70	42	01	NW..Vble.	1 S.. Sh. & Th.. 2 S..
11	29	60	29	40	66	48	19	W..SW..	1 Sun... 3 Cloud.. 4 R.
12	29	30	29	30	63	45		SE.SW..	1 Cloud... 2 Sun..
13	28	84	28	73	62	49	86	SE.	1 Cloud.. 2 Rain....
14	29	63	29	41	61	45		SW..NW..	1 Sh. 2 Sun.
15	29	91	29	80	66	40		W..	1 Sun..
16	29	84	29	75	72	50		S..	1 Sun..
17	29	66	29	53	71	43		SSE..	1 Sun...
18	29	38	29	35	72	49		NW..NE..SE..	1 Sun....
19	9	53	29	52	79	58	2	SE.	1 S.... 3 Th.... Lt.... R
20	29	62	29	57	78	55		NW.ENE..	1 Sun.... 3 Th.. 4 M..

The quantity of rain during the month of May was 2 inches 19-100ths.

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Observations on Diseases at Richmond.

The disorders that have been under treatment in this last period, were Asthenia, Cynanche Tonsillaris, Diarrhœa, Dysmenorrhœa, Dyspepsia, Dysuria, Epistaxis, Febris Catarrhalis, Febris Puerperalis, Febris Typhodes, Gastrodynia, Hæmaturia, Icterus, Mania, Menorrhagia, Obstipatio, Ophthalmia, Phthisis Pulmonalis, Pneumonia, and Rheumatismus.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of MAY to the 19th of JUNE, 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, *High Holborn.*

M.	D.	Therm.			Barom.		Rain Guage	De Luc's Dry.		Hygrom. Damp.		Winds.		Atmo. Variation.		
	20	45	49	42	29^{5}	29^{5}				2	2	NE	NE	Rain	——	——
	21	47	51	40	29^{1}	22^{6}	.29			2	5	N	SW	Rain	——	Clo.
	22	43	47	40	29^{5}	29^{5}	.20			3	2	SW	SW	Fine	Rain	Clo.
○	23	42	52	43	29^{5}	29^{5}	.12			4	4	SW	SSW	Clo.	Fine	——
	24	49	51	42	29^{5}	29^{6}				3	3	SW	S	Fine	Rain	Fine
	25	44	47	41	29^{4}	29^{2}	.18			4	4	SE	NE	Rain	——	Fine
	26	45	51	47	29^{4}	29^{4}	.23			4	4	SE	SE	Clo.	——	——
	27	51	59	46	29^{5}	29^{6}	.10			4	4	SE	S	Fine	Rain	Clo.
	28	51	60	47	29^{6}	29^{7}	.13			5	5	S	NNW	Clo.	Rain	Clo.
	29	48	54	45	29^{5}	29^{7}	.09			5	4	NE	N	Rain	——	Fine
	30	48	53	41	29^{7}	29^{9}	.24			3	2	NNE	N	Clo.	——	——
◐	31	46	59	44	29^{9}	29^{8}	.17			1	2	NW	W	Fine	——	——
	1	52	56	44	29^{8}	29^{8}				2	2	W	SW	Fine	Clo.	Rain
	2	51	59	48	29^{8}	29^{7}	.12			3	2	W	SW	Fine	Clo.	——
	3	54	61	52	29^{7}	29^{6}				1	3	SSW	S	Fine	——	Rain
	4	56	61	49	29^{5}	29^{9}	.10			4	4	S	SW	Rain	Clo.	Fine
	5	54	62	52	30	30^{4}	.08			4	3	SW	SSW	Fine	——	——
	6	56	63	59	30	29^{9}				2	3	SW	SSW	Fine	——	Clo.
	7	66	70	54	29^{9}	29^{7}				3	3	SW	SW	Fine	——	Clo.
●	8	59	68	53	29^{9}	30				3	2	SW	SW	Rain	Clo.	Fine
	9	57	69	55	30^{1}	30^{1}	.15	0		0	1	SW	SW	Fine	——	Clo.
	10	56	68	66	30^{1}	30				2	4	W	SW	Rain	——	Clo.
	11	59	65	52	29^{9}	29^{8}	.17			5	4	S	S	Fine	——	——
	12	55	61	53	29^{7}	29^{7}				3	5	SE	SE	Rain	Clo.	——
	13	55	59	54	29^{6}	29^{3}	.13			5	5	E	SW	Rain	——	Clo.
	14	57	59	54	29^{4}	29^{9}	.14			4	3	SSW	WSW	Fine	Rain	Clo.
	15	59	61	47	30^{1}	30^{2}	.07	0	1	0		W	N	Fine	——	——
	16	55	61	49	30^{2}	30^{2}		0	0	0	0	N	SSE	Fog	Fine	——
☽	17	57	69	59	30	29^{5}				1	3	E	NE	Fine	——	——
	18	63	77	63	29^{8}	29^{7}				3	2	NNE	ENE	Fine	——	——
	19	66	77	67	29^{7}	29^{8}	.02			1	1	SE	S	Fine	Rain	Fine

The quantity of Rain fallen in the month of May is 2 inches 78-100ths.

BILL OF MORTALITY *from May* 20, *to June* 17, 1817.

		May 27.	*June* 3.	*June* 10.	*June* 17.	
CHRISTENED.	Males	203	272	277	186	
	Females	209	251	241	156	
		412	523	518	342	Total, 1795.
BURIED	Males	136	174	175	133	
	Females	141	162	161	127	
		277	336	336	260	Total, 1209.
OF WHOM HAVE DIED	Under 2 Years.	83	90	83	80	
	Betw. 2 and 5	19	40	46	25	
	5 and 10	10	20	20	9	
	10 and 20	12	18	10	16	
	20 and 30	18	27	23	21	
	30 and 40	23	32	30	16	
	40 and 50	30	30	29	22	
	50 and 60	24	32	34	25	
	60 and 70	28	21	29	26	
	70 and 80	19	16	18	11	
	80 and 90	9	9	13	9	
	90 and 100	2	1	1	0	
SMALL POX		14	20	32	16	Total 82.

III.—NOTICE OF LECTURES.

Dr. **Merriman** and Dr. **Ley** will re-commence their Lectures on Midwifery and the Diseases of Women and Children at the Middlesex Hospital on Monday, July 7th, at half past Ten o'clock.

IV.—LITERARY NOTICES.

Deputy Inspector **Hennen's** Work is ready for the press. We have seen both the MS. and the drawings for the plates, and do not hesitate in pronouncing it a work which will stand pre-eminently high in surgical literature.

In the Press, the Principles of Diagnosis. By Marshall Hall, M.D. &c. This work is founded entirely on the External Appearances of Morbid Affections.—It embraces, 1. A view of the countenance and attitude of patients, inasmuch as they are plainly characteristic of diseases: 2. The symptoms of diseases, considered in their modifications and in relation to particular affections: 3. A diagnostic arrangement of diseases: 4. And, lastly, their diagnosis.

Dr. Scudamore has in the press, and nearly ready for publication, the second edition, corrected and enlarged of, A Treatise on the Nature and Cure of Gout and Rheumatism, including General Considerations on Morbid States of the Digestive Organs; some Remarks on Regimen; and practical Observations on Gravel.

MONTHLY CATALOGUE OF BOOKS.

An Essay on the Nature of Light, Heat, and Electricity. By C. C. Bompass, Barrister at Law. 8vo.

The Hunterian Oration, delivered before the Royal College of Surgeons, 1817. By William Norris, Master of the College, and Surgeon to the Charter House and Magdalen Hospital.

Remarks on Insanity, tending to illustrate the Physical Symptoms and Medical Treatment of that Disease, founded on the practice of John Mayo, M.D. Fellow of the Royal College of Physicians. By Thomas Mayo, B.M. Fellow of Oriel College, Oxford, and Inceptor Candidate of the College of Physicians. 8vo.

Remarks on Arsenic considered as a Poison and a Medicine, &c. By John Marshall. 8vo.

NOTICES TO CORRESPONDENTS.

Communications are come to hand from Mr. Moyle, jun. Mr. Gaitskell, Mr. Kerrison, Mr. Weaver, Mr. De Merveilleux, jun. *and* Mr. Morgan Thomas.

The Paper signed W. *requires a signature.*

Mr. Hastings' *Experiments and Reasoning, in refutation of* Dr. James Johnson's *opinions regarding the Circulation of the Blood, shall have a place as soon as we have further discharged the obligation which the priority of other Communications imposes.*

In order that we might pay due attention to our numerous Correspondents, we have added half a sheet to the ordinary number of the present Number of the Repository.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Morbi *Biliosi*†	62		Psoriasis *inveterata*	6	
Nephralgia	1		Pyrosis	7	
Nephritis	2		Rachitis	2	
Neuralgia	2		Rheumatismus *acutus*	36	
Obstipatio	33		——— *chronicus*	34	
Odontalgia	16		Roseola	2	
Opththalmia	28		Rubeola	38	3
Otalgia	4		Scabies	71	
Palpitatio	2		Scarlatina *simplex*	16	
Paracusis	2		——— *anginosa*	8	
Paralysis	17	1	——— *maligna*	2	1
Paraplegia	2		Scorbutus	1	
Paronychia	10		Scrofula	18	
Pericarditis	1		Spasmi	10	
Peritonitis	2		Strictura	3	
Pernio	1		Strophulus *intertinctus*	6	
Pertussis	33	4	——— *confertus*	3	
Phlogosis	12		Sycosis *menti*	1	
Phrenitis	3		Syncope	2	
Phthisis *Pulmonalis*	30	10	Syphilis	35	
Physconia	1		Tabes Mesenterica	8	2
Plethora	8		Tic Doloreux	1	
Pleuritis	13		Trismus	1	1
Pleurodyne	15		Tympanites	1	
Pneumonia	21	4	Vaccinia	72	
Podagra	12		Varicella	18	
Polypus	1		Variola	53	11
Porrigo *larvalis*	5		Vermes	40	
——— *decalvans*	2		Vertigo	38	
——— *scutulata*	10		Urticaria *febrilis*	8	
——— *favosa*	3		——— *evanida*	2	
Prolapsus	3		——— *conferta*	2	
Prurigo *mitis*	5				
——— *senilis*	7		Total of Cases	2050	
Psoriasis *guttata*	5				
——— *gyrata*	2		Total of Deaths		83

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

◆

At the latter part of the period which the Register embraces, the temperature of the atmosphere was extraordinarily high. The affections of the respiratory organs have been accordingly much less frequent and severe. The *Exanthemata* have, from the same cause, increased: although this does not appear in any remarkable degree from the returns in the Register, yet we know this to be the fact. *Variola*, above all, continues and spreads a devastating contagion. However painful, yet it is a duty we owe to the public and the profession, to apprize them, that the number of all ranks suffering under *Small Pox*, who have previously undergone *Vaccination* by the most skilful practitioners, is at present alarmingly great. This subject is so serious, and so deeply involves the dearest interests of humanity, as well as those of the medical character, that we shall not fail in directing our utmost attention to it.

In different parts of the body nerves are traced into small masses of medullary matter, which are called ganglia, from which ganglia or small detached brains, fresh filaments of nerves may be traced; sometimes a ganglion unites two points of a nerve, sometimes it is the centre of several filaments. These ganglia are, with a very few exceptions, found among those nerves which belong to the system of supply and waste. All nerves communicate with the cranial brain, either by their own branches, or through other nerves, or through ganglia, or through the spinal brain. The nervous system is every where supplied with arteries and veins. Nerves send branches to every part of the body, excepting the substance of the teeth, nails, hair, marrow, cellular substance, and epidermis. There are other parts in which the anatomist cannot discover nerves, as tendons, ligaments, cartilages, bones; upon which parts, when in a healthy state, impressions do not excite sensation; but when in certain diseased states, impressions upon them may excite sensation.

The nervous system is that through and by which the mind holds communication with the rest of the body, and with the material world. In order that an impression upon a nerve excite sensation, such nerve must have its communication with the cranial brain or spinal brain entire and uninterrupted. If a ligature be placed around a nerve, or if such nerve be divided, those impressions only which are made upon that nerve between the ligature or division and the cranial or spinal brain will excite sensation; all impressions made upon the nerve beyond such ligature or division will fail to excite sensation. The sensation excited by impressions depends much, perhaps, upon the temperament of the nerves impressed upon; it depends much upon and is much influenced by the quantity of blood which is contained in those arteries and veins which are intermingled with the nervous system generally or locally. The sensation depends much also upon the thing impressing, and upon the particular nerve impressed. This has been exemplified when speaking of the mind. A nerve may have lost the power of communicating its peculiar sensation, yet it may still convey the general sensation, feeling. The nerves which belong to the system of supply and waste do not transmit to the mind impressions, which they are exposed to under the ordinary and natural performance of the functions of that system. The digestion of food, its passage along the intestinal canal, the passage of chyle, of lymph, of blood, of various secretions through their proper passages, these do not so impress the nerves of the several parts concerned as to cause sensation to be excited; impressions upon parts may influence and produce actions in these parts without exciting sensation. But if the parts in which these several functions are performed are in an unnatural or disordered state, sensation may be excited even when the parts are merely discharging their natural functions. Unnatural impressions upon these parts, or natural impressions carried beyond natural limits, will excite sensation; but in some cases the degree of sensation excited by impressions upon parts of the system of supply and waste appears not in proportion to the impression: thus wounds of the lung or of the liver often excite but trifling sensation. Generally speaking, impressions are not made directly upon the nerves, but a substance destitute of nerves is interposed between the thing impressing and the nerve impressed. The kind and the degree of sensation depends upon the interposed medium. When an impression has existed for some time, the degree of sensation excited by it generally diminishes gradually, until the sensation perhaps ceases altogether; but if the impression be removed for a time, and be then re-applied, the sensation will be re-excited. This cessation of the sensation must depend either upon the mind ceasing to take cognizance of it, or from some change in the nerve impressed upon; but the mind may continue to take cognizance of other sensations, although the sensation by this particular nerve has ceased; there must then be in this case some change in the nerve, which prevents the impression producing sensation; in common language, we express this change by saying that the nerve is fatigued, that its sensibility is exhausted; this is merely stating the fact; in other words, we do not know upon what change in the nerve it depends, or how the property of re-conveying sensation is restored by rest. When sensation is excited, the mind generally traces the sensation to the part impressed upon, and refers it to that part; but it frequently not only does this, but it traces also the impression to its source; thus, with regard to objects of sight, rays of light strike the retina, they excite sensation, the mind traces the rays to the object whence they proceed, and refers back the sensation to the situation of that object. In the same manner does the mind trace undulations of air to their source. So, when we hold a pencil or a probe between the fingers, and trace out the form of a body or the irregularities of its surface, the mind traces the impressions to their source, and refers them to the end of the pencil or probe. If a nerve be impressed upon at any point between the cranial or the spinal brain, and the ultimate subdivision of such nerve, the sensation is generally referred to all such subdivisions, and sometimes also to the part impressed, sometimes not. Thus an impression upon the bladder may excite sensation, which shall be referred to the external end of the urethra; a blow on the ulnar nerve at the elbow may excite sensation which is referred both to the elbow and to the ultimate subdivisions of the ulnar nerve in some of the fingers. An impression on the hip-joint may excite sensation, which may be referred to the knee only, or to both hip and knee. An impression upon the ultimate branches of a nerve may excite sensation which shall be referred to the other extremity of such nerve: thus an impression upon the ends of the phrenic nerve in the upper surface of the liver, may excite sensation which shall be referred to the other extremities of that nerve at the shoulder. Impressions are then communicated in some way or other through nerves; but the sensation excited, is referred either to the part directly impressed upon, or to either of the extreme points of such nerve, while no sensation is referred to the intermediate part of the nerve between the part impressed and the extreme points.

If the communication between certain parts and the cranial or spinal brain be interrupted, by tying or dividing the nerve or nerves of such parts, we find that certain functions of those parts cease; we therefore naturally infer, that something was conveyed by the nerve, when in its entire state by which those functions were regulated; this something, whatever it be, we call the nervous power; and since whatever interrupts the communication of the nerves with the cranial brain, interrupts the communication of this power, we infer that the cranial brain is the fountain head of the nervous power. The nervous power when directed to muscles, produces contraction of their fibres. This power is generally directed to muscles by the mind. When it has been so directed for a certain length of time, the mind ceases more or less to have the power of producing contraction of the muscle or muscles: this must arise either from a fault in the mind, or from a deficiency of nervous power, or from fault in the particular nerve or nerves, or from fault in the particular muscle or muscles; but the mind may continue to order the contraction of other muscles which have not been so long in action. There is not then a fault in the mind, nor is there a deficiency of nervous power generally; there must then, in this case, be either a local deficiency, or a fault in the nerve or in the muscle. But the nerve in the present case may convey other powers, as the electric power, and the muscle may still contract independently of the mind; yet as the cranial brain is considered as the fountain head of the nervous power, we know not how to suppose that there can be a local deficiency of that power. The power which muscles possess of contracting, independently of the cranial brain, has had various names; it has been called *vis insita*, irritability; how far it may be the same power as life, we cannot exactly determine. We see then, that a nerve, whether it be considered as the medium through which impressions are conveyed to the mind, or as that through which the nervous power is conveyed by the mind, when it has been long incessantly employed, ceases more or less to perform its office, and that it requires to be unemployed for a time, in order that it again become a proper and natural medium.

If the living body of man be placed in an atmosphere colder than the body, or if other bodies colder than the human body be applied to it, the temperature of such atmosphere or of such bodies will be raised so as to be equal to that of the human body, and the human body shall still keep up its own natural temperature; so that the human body must possess the power of generating heat. If the human body be placed in an atmosphere hotter than the body, the body will still preserve the same natural standard of heat which it possessed when in a colder atmosphere. This standard is about that degree of temperature which is indicated by 97° of Farenheit's thermometer; the human body then, in a natural state, has not a capacity for a greater degree of heat than that which is indicated by about 97°. If the communication between a part of the body and the cranial or spinal brain be interrupted by tying or dividing the nerve or nerves of such part, the temperature of such part will be diminished, and such part will, more or less, readily partake of the temperature of surrounding bodies. The integrity of the nervous system is necessary then for the production of heat, and for regulating the capacity for heat.

The system of supply and waste is that system, which, as its titles imply, receives supplies for the maintenance of the body, and which carries off what is superfluous or no longer useful. It consists of the heart, the arteries, the veins, the absorbents, the exhalants, and the secreting structures. It is a system of vessels which contain and convey various fluids. All the vessels which have been mentioned, are connected together; for the absorbents terminate in veins; veins terminate at the heart; to the heart are attached also the arteries, the subdivisions of which are continued on by capillaries into veins, or terminate in exhalants, or in secreting structures, which have their several outlets, and from which secreting structures there arise veins which are also continued on to the heart. The heart then is the common centre of this system. To this system is attached a long canal, consisting of the œsophagus, stomach, and intestines; upon, and throughout which, the system of vessels is every where spread out and ramified; the canal is for the reception of fresh nutriment for the body, and as it is only subservient to this system, it may be considered as forming a part of it. To this system also are attached various structures or viscera, which are to be considered as expansions or prolongations, or convolutions of parts of this system, the mass of the viscera being principally composed of ramifications of it.

The food being masticated, and being mixed with the juice of the salivary glands, is forced down the œsophagus into the stomach, where it is mixed with the gastric juice; passing thence into the duodenum, it receives the bile and the pancreatic juice, and the mass thus compounded, passes along the intestinal canal, the mouths of absorbents separating and taking up whatever is useful and nutritious for the body; the useless remainder being gradually pushed along the canal by the peristaltic motion of the bowels, and being afterwards expelled from the canal partly by this motion, but principally by the action of powerful muscles. The nutritious part of the aliment passes along those absorbents which are called lacteals; the remaining absorbents take up and convey whatever is superfluous or whatever ceases to be useful in the body. All the absorbents terminate in the large veins near the heart, so that the fresh matter which is just entering the system, and the old matter which has become superfluous, are alike poured into the mass of circulating blood, and are carried into the heart; the heart, by its contraction, propels the blood along the arteries from the various terminations of which it passes, either by exhalants in the form of fluid or vapour, or by veins directly to the heart again, or through secreting structures, where part of it undergoes a separation and an alteration according to the nature of the secreting structure; and, being thus separated and altered, passes on by various ducts or outlets; the other part of it from which the secretion has been abstracted, passes on by other veins and again reaches the heart. The blood which returns to the heart flows on to the lungs, where it undergoes a change from exposure to air, and, being changed, returns again to the heart, and thence is propelled as at first. So that the blood is in perpetual motion, and is undergoing perpetual changes; its quantity and its quality depending upon the fresh matter poured into it, and upon the matter poured from it.

The nervous system and branches of the system of supply and waste, are distributed throughout the body. The system of vessels is everywhere supplied with nerves; the nervous system is everywhere supplied with vessels, the parts appended to the system of vessels are supplied throughout with nerves, so that the two systems are blended together. The circulation of a due quantity of blood through the vessels of a part is necessary, in order that the functions of the nervous system as relating to that part, be properly performed. For without that due circulation of blood, the impressions made upon such part will not excite due sensations, and the evolution of heat in that part will be more or less suspended. An injury done to a nerve in a part may increase the quantity of blood that circulates through the vessels of such part, and the greater the quantity of blood that circulates through a part, the greater is the quantity of heat which such part will give off to other bodies. There is then a great connexion between the quantity of blood that circulates through a part, and the heat which such part gives off, and the degree of sensation which impressions upon such part produce. The nervous system and the system of supply and waste are then closely and intimately united, and they mutually influence each other.

The muscles are masses of fibres, which fibres everywhere receive branches from the nervous system and from the system of supply and waste. These fibres are met with in three states; the one a state of contraction, another being a state of relaxation, and the third state being an intermediate state between these two: this last state is that in which we see a muscle which has another muscle opposed to it, or an antagonist muscle, as it is termed: thus the muscles on each side of the neck are in this state: they oppose each other; for if those on one side lose their power, while those on the other side are in a healthy state, the head will be drawn to that former side; but when both are in a natural state they counteract each other, and thus keep the head upright. In some persons we see a constant alternation of action between these antagonist muscles, which causes the head to shake from side to side. The nerves which supply the muscles generally, are more connected with the cranial or spinal brain, and less connected with each other, than the nerves of the system of supply and waste.

The contraction of the muscular fibres of the system of supply and waste, and of the parts appended to that system, is more or less independent of the cranial brain. That system has a nervous system in some measure peculiar to itself; one with which the mind is less immediately connected, and which is competent to the exercise of functions without the direct agency of the mind or of the cranial brain. The contraction of muscular fibres arises from the direction of the nervous power to those fibres, or of some other power, as the electric power, or from some power resident in those fibres, by virtue of which they contract without the agency of the nervous power. It would be foreign to the present purpose to inquire minutely into the laws and the phœnomena of muscular motion: it is sufficient to notice further, that the mind can order the contraction of most muscles, by directing the nervous power to them; that those muscles which have been most frequently and most powerfully contracted, have generally a larger quantity of blood circulating among their fibres; and that it can indirectly influence those muscular fibres over which it has not a direct controul. We have seen the intimate connexion that subsists between the nervous system and the system of supply and waste; we have observed, that a close connexion subsists between the mind and the nervous system; it follows then that there must be a mutual relation between the mind and the system of supply and waste. The various states and affections of the mind influence the quantity of supply admitted into the system, the mode of its distribution, and the quantity of expenditure. The quantity of supply depends upon the state of the appetite for food, upon the more or less perfect mastication, upon the quantity of saliva which mixes with the food, upon the state of the gastric juice, of the bile, and of the pancreatic juice, upon the secretions of the mucous membrane of the canal, upon the action of the lacteals, upon the action of the canal, upon the quantity of superfluous matter retained in the canal. Now the mind more or less influences all these. Under certain states of mind, the appetite is increased; under others, it is diminished; and if appetite depend upon a due and healthy secretion of the gastric juice, it follows that the mind influences the secretion of this juice; that there is some influence conveyed to the stomach through the medium of the nervous system, which directs the secretion of the gastric juice, appears from the secretion of the juice being destroyed, and consequently digestion being destroyed, by the division of the stomachic nerves. The appetite may be good, yet the mind, being engaged in some other way, may not attend to it. The quantity of saliva is diminished or increased by states of the mind, and by certain sensations immediate or suggested; and the quantity of it which mixes with the food depends also upon the more or less perfect mastication of the food, which of course is under the influence of the mind. The mind indirectly influences the secretion of bile and its influx into the bowel, by influencing the circulating system, by influencing the action of the stomach and intestines, by influencing the retention or the expulsion of superfluous matter from the intestines. The same may be said respecting the pancreatic juice and other secretions. The peristaltic motion of the canal is very much influenced by and through the mind, is affected by the influx of bile, and by the state of the mucous membrane of the canal. Some passions increase the peristaltic motion, others retard it; while others invert it. Certain impressions upon remote parts affect also this motion. Suggested sensations, which frequently are accompanied or followed by those actions of the body and mind by which those sensations, when originally produced, were preceded, accompanied or followed, will also increase or invert the peristaltic action.

Thus if we see or hear of certain substances or certain impressions which have formerly excited vomiting in ourselves, we shall probably have nausea or vomiting again excited.

Blows on the head affect the mind and the distribution of the nervous power; they also excite vomiting. Affections of the uterus influence the mind; they also excite vomiting. Affections of the kidney produce vomiting; the mind has a great influence over the secreting power of the kidney. The retention or expulsion of superfluous matter from the canal, is more or less under the influence of the mind; inasmuch as the mind influences the peristaltic motion, and directs also those other efforts by which such matter is also expelled. The mode in which the supply is distributed, is more or less influenced by the mind. The action of the heart as to force and frequency is influenced by the mind; and this, either from the direct influence of the mind upon the heart, or its indirect influence from its controul over the respiration.

The quantity of blood in arteries is influenced by the mind also, inasmuch as the mind influences the secretions and the action of exhalants; and it does this either by its influence upon the action of the heart, or by its direct influence on certain secretions and upon the exhalants; and as it influences these, it influences, as we have said, the expenditure from the system of supply and waste. The mind may influence particular vessels; thus shame enlarges the vessels of the cheeks, producing the blush; while other passions cause them to contract; genitalium vasa implet libido. The mind then has a great and varied influence over the system of supply and waste, it is also in its turn influenced by and through this system. The quantity of food taken into the stomach, the quality of such food, the manner in which it is digested and passed on, the action of the heart, the quantity of blood contained in vessels, whether generally or locally, the greater or less action, and the more or less perfect action of secreting structures, and of the exhalants, all these very much influence the mind and its various actions. In some instances, the influence of the mind over the system of vessels is directly reciprocal; in others, not. Si turgeant genitalium vasa nascitur libido; this is an influence directly reciprocal, for genitalium vasa implet libido; but although shame enlarges the vessels of the cheeks, a preternatural distension of the vessels with blood does not give rise to a sense of shame in the mind.

From the foregoing imperfect sketch, it appears that all the parts, all the powers, all the functions of living man are closely and intimately connected and blended; that nothing is distinct and independent; that the sensations, the passions, and the faculties are dependent upon and influence each other; that they are severally and collectively connected with, and influence, and are influenced by, the different systems of the body in the various states and actions of these systems; and that all these several states and actions mutually influence and affect each other.

There is a certain state of the several parts of living man, a certain harmony between them and between their several functions, in which state every part is in a natural and proper condition, and every function is duly and naturally performed with a due relation to every other part, and to every other function: such a state is called Health. Every deviation from such a state is Disease. In order to particularise every possible diseased state, we must enumerate every possible variety and degree of deviation from that state which we have described as the state of health: this would be a laborious task, and would require complicated investigation. For the present purpose, it will be sufficient to take the mere outlines of the varieties of disease, with a view to the general treatment of these; premising that the titles of diseased states are assumed generally from some more prominent feature of such state, and from one part or one function appearing to be principally concerned.

If disease be present, we must recollect the various parts of living man, the various functions of these several parts, the dependence of these and the influence of them on each other, and what it is that constitutes the health of the individual; taking into account the temperament, sex, age, and situation. We must examine into the manner in which the functions of the nervous system are performed, and into those also of the system of supply and waste. We must see whether the harmony between these two systems is perfect and natural. If the nervous system appear principally in fault, we must inquire whether the fault be as relating to the communication of sensation, or in the conveyance of nervous power, or in the quantity of nervous power, or in the temperature of the body. Is the fault in the parts of the cranial brain, of the spinal brain, of the nerves generally or locally? Should the fault appear to be principally in the system of supply and waste, is it in the action of the heart, or in the quantity or quality of the blood: is it in the state of the arteries, of the veins, of secreting structures, of exhalents, of absorbents, and on these generally or locally? Is it in the quantity or quality of food taken, in the digestion of that food, in the canal through which such food passes? Is it in the respiration, in the organs of respiration, or in the air respired? Is it some fault in muscular fibres, in their proper power? What is the state of the mind, its genius, its disposition, and its perception? is the mutual influence of these over the body, and of the body over these, perfect and natural?

In setting about the treatment of diseased states of living man, we must still bear in mind the dependence of all the functions upon each other. We must remember that we can influence the nervous system through the mind, and through the system of supply and waste, or by acting directly upon it; that we can influence the system of supply and waste, by acting directly upon it, or through the nervous system, and also indirectly through the mind; that we can influence the mind either through the nervous system, or through the system of supply and waste. If impressions do not excite sensations sufficiently strong, we must see whether there be any injury or unnatural state of the nervous system generally, or of particular nerves. We shall remember that the degree of sensation depends much upon the quantity of blood which is intermingled with the nervous system, whether generally or locally; we can therefore increase this quantity; the sensation depends in part upon the temperature of the part impressed; we can therefore increase the temperature, should that appear to be deficient; we can increase the force of the impression; we may endeavour to fix the attention of the mind more particularly to the particular sensations; we may alter the interposed medium between the thing impressing and the part impressed; we may act, perhaps, directly upon the nervous system generally or locally. If the faintness of sensation appear to arise from that state of the nervous system generally or locally, which is in common language called an exhausted state, we shall remove all impressions for a time, and allow the system, whether generally or locally, to be at rest. If sensations require to be lessened, we can lessen the quantity of blood that mixes with the nervous system generally or locally; we can diminish and abstract heat; we can diminish the force of the impression, or alter or remove it; we can endeavour to call off the attention from such sensations; we may alter the interposed medium between the thing impressing and the nerve or nerves impressed upon; we may act perhaps directly upon the nervous system, either generally or locally. If the nervous power be improperly conveyed, does this arise from fault in the nervous system generally or locally, or from fault in the mind; is there excess or deficiency of this power, and that generally or locally? If the cranial brain appear to be in fault, so as not to furnish the due quantity of this power, we must see that the parts of this brain are in a healthy and natural state, that they are furnished with a due proportion of blood in the vessels intermixed with these parts: if the fault appear to be in the spinal brain, the same observance will be necessary; if in nerves, the same inquiry is necessary. We have it in our power to increase or to diminish the quantity of blood that intermingles with the nervous system generally or locally; we are possessed of some known means which appear to act directly upon the nervous system, and to increase the quantity of nervous power, generally or locally: we must endeavour to call the attention of the mind to the proper and due distribution of this power: we may contrive means of expending the power, if it appear in excess; or of saving it, if it appear deficient.

If the system of supply and waste appear to be in fault, we must remember the natural and healthy equilibrium between all the parts of this system; and we must endeavour to restore this equilibrium: if the supply be too great in proportion to the expenditure, we must diminish the former, or increase the latter: if too small, we must increase the former and diminish the latter. If the heart act too powerfully, or too frequently, we can reduce this action, either by means which act upon the heart itself, or which act through the nervous system, or through the mind perhaps, or by lessening the quantity of blood if it be in excess, or by increasing it if it be deficient. If the quantity of blood be too great generally, we can diminish the supply; we can alter the quality of supply; we can increase the expenditure by increasing the action of secreting structures and of exhalants. If the quantity of blood be too great locally, we can lessen this, either by lessening the general mass of blood, or by abstracting heat from the part, or by acting upon the nerves of the part, or by lessening the blood contained in the local vessels, by withdrawing that blood, by increasing the secretions of the part, by diminishing the capacity of the blood vessels, or by avoiding such actions of the mind as have a tendency to enlarge these particular vessels. The reverse of all these means can be employed, if the quantity of blood be too small, generally or locally. If any secretion appear too profuse, we may lessen it, either by lessening the mass of blood generally, or by increasing other secretions, or by lessening the quantity of blood sent to that particular secreting structure, or by acting upon the nerves which are contained in such secreting structure, or by diminishing the capacity of its blood-vessels, or of its outlets, or by avoiding such actions of the mind as have a tendency to increase such secretion, or by increasing the quantity of blood that passes from such secreting structure by its exhalants and veins, or by other means which possess an influence over the secretion. The reverse of all these means may be used if the secretion be too scanty. If the temperature of the body be too great, generally or locally, we may abstract heat by the application of colder bodies; we may diminish the quantity of blood, generally or locally, by any of the means above mentioned; we may employ means that act upon the nervous system generally or locally. If absorbents be inactive generally or locally, we must endeavour to increase their action; we must remove all impediments to their action; or we must, in some way or other, diminish or remove that which they refuse to carry off. If absorbents be too active, we must endeavour to restrain their action, and we must oppose impediments to such action. Recollecting the various functions upon which digestion of food depends, we shall see that all these functions be duly performed, and we shall be guided in our treatment by the rules already laid down, remembering the influence of the mind directly and indirectly upon these functions. We shall take care that the action of the bowels be regular and natural, by regulating those actions upon which this action depends, by using other means which can increase or diminish this action, and by keeping up or avoiding those actions of the mind which have an influence over this action. If the fault appear to be in the respiration, is it from disease of the air-passages, of the muscles concerned in this office, from too much blood flowing to the lungs, from too little blood flowing to the lungs, from an impediment to the return of blood from the lungs, from the dilatation of the lungs being impeded by a diseased state of such lungs, by disease of the parietes of the thorax, by pressure upon the lungs either in the thorax or in the abdomen, or is it from affections of the mind, or from the air respired? The result of this inquiry will point out the means to be pursued. If the disease be in muscles, from a want of their proper power, we may let such muscles rest; we may increase the quantity of blood that mixes with their fibres; we may exercise such muscles duly, and divert the nervous power to them or some other power, as the electric power. Opposite means will be used, if muscles appear to possess too much power; in which case we may also increase the power of the antagonists of such muscles, if any exist. If the fault appear to be principally in the mind, is it in the genius, in the disposition, or in the perception, or in the direction of the nervous power? We must remember how all the functions of the mind are influenced by functions of the body, when these last functions are properly or improperly performed; how we can influence the functions of the mind through the nervous system, and through the system of supply and waste; and how the various functions of the mind influence each other. If the mind be too much occupied by the exercise of one faculty, we may call its attention from this, by calling other faculties into action, by exciting vivid sensations, and by calling its attention to these; by exciting passions, or by withdrawing the attention of the mind to varied kinds of bodily action. If the mind be too much occupied by one passion, we may avoid all sensations that can lead to such passion, whether immediate or suggested; we can consider what states of body favour such passion; we can alter such states; we can raise new sensations and new passions; we can direct it to the exercise of faculties, or to the ordering varied kinds of bodily action. We can make the mind more or less attentive to any present sensation, by increasing or diminishing such sensation, by withdrawing its attention to other sensations, or by employing it in the exercise of faculties, of passions, or in directing bodily actions. We can make the mind attend more closely to bodily actions, by withdrawing it from the exercise of its faculties, from its passions, and from sensations.

II.

A Case of Ruptured Uterus, and a Part of the Fœtus extracted through the Parietes of the Abdomen. By J. H. Brock, M.D. of Mansfield, Nottinghamshire; Member of the Royal College of Surgeons, London. Communicated through Dr. George Pearson.

Wilmot, a healthy Negresse, about 35 years of age, was taken with symptoms of labour with her eleventh child, on Thursday, August the 5th, 1813, which continued gradually to increase till Friday morning following; when the midwife, on examination per vaginam, found the membranes at the os externum distended with the waters, which shortly afterwards burst, when she said she felt and saw the head of the child, much covered with hair (to use her own expression), very low down, or, as I understood her, at the os externum. Shortly afterwards, the patient had a good deal of acute pain, and became very anxious, restless, and impatient, and insisted upon walking about the room, which she was allowed to do for a few minutes, during which time she had a very violent pain, followed by cold sweats, nausea, and violent liquid purging. After waiting some time, as the pains of labour did not return, the midwife examined her again, when to her surprise she could neither feel the head of the child, nor any presenting part; and as the patient had no return of pains like those of labour, she was allowed to remain without any further assistance till Sunday the 8th following, when I was called upon to visit her.

On examination per vaginam, which I could very imperfectly perform, the parts being so very sensible that the patient could not bear me to touch them, I could feel no presenting part. The uterus was so high up in the abdomen, that I could with difficulty touch the os uteri with the point of my finger.

However, the os uteri I found dilated to the size of a dollar piece; it felt thick, rather flabby, and had a very irregular orifice, similar to what I have felt in some cases of scirrhous uterus, I could also feel something flocculent, like the thin edge of the placenta within the orifice of the uterus; but from the heat, dryness, and extreme sensibility of the vagina, I did not think it prudent to use any more force by the introduction of my hand, to make a more particular examination, having some doubts of the midwife's accuracy. The pulse was very small and quick. The abdomen was much distended and very sore; so much so, as scarcely to bear the pressure of the sheet. Tongue whitish; bowels very open; skin hot and dry; stomach easy; no discharge per vaginam. Being at a loss what to make of the case, and having been frequently deceived by the information I have been able to obtain from black midwives, I was inclined to think, that on this occasion the woman had been deceived. I therefore ordered a warm purgative mixture to be given, and after the operation of it, an antimonial opiate to be administered at bed-time.

August 9th. The tension of the abdomen remains the same. Pulse 100; the skin hot and dry. The medicine has operated well. She is very restless and has had very little sleep; was ordered to take antimonials with the saline julep.

10th, 11th, and 12th. The symptoms continuing the same, she was desired to continue her medicines.

13th. The fulness, tension, and soreness of the abdomen having much subsided, on pressure I could distinctly feel what I conceived to be the limbs of a child. It was not till then that I could make out the case; when I was satisfied the uterus had been ruptured, and that the fœtus had escaped into the abdomen. I requested Mr. Moses Bravo and Mr. Garcia to visit the patient with me, and they entertained the same opinion as myself. From the length of time after the accident, and the great heat and soreness of the vagina, I did not think it prudent to attempt to pass my hand into it, for the purpose of ascertaining whether the uterus was empty or not; but proposed an operation for the extraction of the fœtus through the parietes of the abdomen, which however was not consented to.

14th. Whilst the patient was on the close-stool, the placenta slipped away from her without any pain, in a highly putrid state. I now attempted to introduce my hand into the vagina, but the patient could not allow me to use the least force.

15th. She complains of a cutting pain about the navel, and a soreness of the whole abdomen; so much so, as to scarcely bear it to be touched.

16th. The head of the child can be distinctly felt through the umbilical ring.

17th, 18th, and 19th. All the symptoms continued the same.

20th. The tenderness of the vagina having much abated, I passed two fingers into it, and got hold of the toes of one foot.

B gentle pulling I brought down the lower extremities with the pelvis in a very putrid state.

21st. One rib and much purulent matter were discharged from the vagina; the patient complains of much pain in the abdomen.

22nd. Several ribs were discharged.

From the 23rd to the 31st inclusive, there were continued discharges of matter and pieces of bone per vaginam.

September 1st. The navel felt very thin, and had evidently matter confined under it. A great deal of matter was discharged in the evening from the vagina; the nurse says, at least, a quart.

2nd. The navel burst this evening, and discharged a small quantity of matter; the orifice is very small.

3rd. Mr. Moses Bravo and Mr. Garcia visited with me this morning. On introducing a probe at the aperture at the navel, we felt very distinctly the denuded bones of the head; and by the advice and with the assistance of those gentlemen, I laid open the abdomen in the direction of the linea alba, commencing three inches above the umbilical ring, and continued it as many below; when, with some difficulty, we extracted the head and upper extremities of the child. The cavity we sponged out well, and brought the lips of the wound together with two sutures and adhesive straps, and dressed it superficially. An opiate was given at night, and saline julep during the day.

4th. She has had a good night; skin much cooler and rather moist; pulse 100; no thirst: she has a wish for some food; and from this time began to recover in a natural way; so that in about six weeks from the operation, she was perfectly restored to health.

June 28th, 1814. I this day saw the patient, who is grown very fat, and has been in good health since her illness, but has never since had any menstrual evacuations.

From the history of the above case, it evidently appears that the uterus was ruptured at the time the patient was attacked with cold sweats and purging, and that the upper part of the fœtus had escaped into the abdomen, leaving the lower extremities with the placenta in the uterus; by which means the communication betwixt the vagina and the cavity in which the head and other parts were confined, was kept open. Had medical assistance been at hand, the case I conceive could have easily been remedied by immediate delivery; but as it was, her real situation was not known till the seventh day after the accident: and at the time I first saw the patient, from the extreme soreness and distension of the abdomen, I could not ascertain her real situation; nor do I think any good could have been done had I known it; for the heat, contraction, and extreme tenderness of the vagina was such, that the attempt would have rather increased the irritation already produced, and most probably would not have succeeded; as in all likelihood the upper part of the body of the fœtus, by the adhesive inflammation, had already formed a nidus for itself in the omentum; which, on opening the abdomen, was found to be the case. It is somewhat extraordinary, that the patient never had any bloody discharges per vaginam after the first day of labour (the 5th), nor any thing like a leucorrheal discharge during the whole of her illness.

III.

A Case of Demonomania. By Edward Oakley, Hospital Assistant, Hilsea; and Member of the Royal College of Surgeons in London.

November 14th, 1816, Benedict Bloste, aged 34, a native of a small village near Ghent, in the Netherlands, about five feet two inches in stature, and by trade originally a miller, was admitted into the military hospital at Hilsea, with mania.

By what I could glean from the mingled jargon of Flemish and English spoken by those who had conveyed him hither, Bloste had exhibited unusual symptoms of despondency during a voyage from Demerara; and about a fortnight before their arrival in this country, he had been suddenly attacked with a violent paroxysm of madness, which rendered confinement necessary, as he declared that the evil spirit with which he was possessed would not suffer him to die until he had killed a man. These paroxysms were repeated at uncertain intervals; but the same idea continued constantly: he ever seemed on the watch to accomplish his avowed design, although so sensible of the criminality of indulging this propensity, that he requested to be more firmly secured.

The evening after his arrival he had a very furious paroxysm, and a second about midnight; which evinced the necessity of coercion. After musing on the follies of his youth, his melancholy appeared to glide into despondency—an agitation of the whole body supervened, and gradually increased to a convulsive motion—he felt continually incited by some powerful impulse to injure those around him, although retaining sufficient reason to warn them away. In some of the fits the globus hystericus seemed to rise, and for a few minutes consciousness deserted him, and he appeared in danger of suffocation. The system then gradually re-established itself; the respiration, though still hurried, became free; the convulsive motion subsided into a tremor; and the face resumed its settled gloom.

In the intervals of these paroxysms he was tractable, and answered directly to any question proposed; but his eye wandered unremittingly; his hands seemed impatient of restraint; every moment produced a change of position; and the frequent shrug of the shoulders peculiar to Frenchmen was accompanied with some expression implying disgust. His appetite was voracious, and his tongue slightly white; otherwise he had every appearance of the most robust health; except that at times he was troubled with epistaxis, to which he had been subject in his youth. His neck is unnaturally short; but the head presents no peculiar conformation, except that the frontal bone was singularly developed, and prominent at about two inches above the middle of the upper edge of each orbit.

The following is the account he gave me of himself.—In the year 1807, during the time that Bonaparte was First Consul, he was included in the conscription, and after some time sent out to Martinique, where he became a prisoner to the English, and in the end was enrolled for seven years' service. During the chief part of this time he lived as a servant; two years with one master, and three with another; and was twice attacked with the fever of that climate. It was during his second illness, about four years ago, that the fear of sharing the fate of the many swept off around him induced him to take an oath to be more guarded in his conduct if he recovered. This oath he describes himself as having subsequently broken. Melancholy from that moment began to prey on him; and the lapse of time served but to fix the impression; until about a twelvemonth ago, when he became convinced that an evil spirit had full possession of him, and that he had nothing more to hope. He further states, that this demonomania has been gradually creeping on him since the last access of fever in the West Indies, where he owned that he lived freely.

A continual knawing sensation at the stomach was now superadded, to which gradually succeeded the hysteric affection; which at the present period is repeated once, twice, or thrice in the twenty-four hours; but most constantly about midnight, when nothing interrupts his sombre reflections. He declared himself unable to pray; because every attempt to address his Creator had no other effect than to suggest oaths and imprecations, which he believed to depend on the instigation of the demon that possesses him; and even if he falls off to sleep, horrid dreams and convulsive motions of the muscles allow him but short intervals of repose.

By way of treatment, I prescribed an emetic every other day; and impressed him with fear during the paroxysms, by threats of using corporeal punishment; but at the same time gained his affection, by allowing him occasionally some harmless deviation from his otherwise spare diet. I allowed him no time during the day for meditation; but kept him incessantly employed in a variety of ways; and at night exhibited a large dose of opium, which threw him into a kind of slumber or stupefaction incompatible with the exertion of intellect, until the morning renewed his occupations. Indeed, to unremitted and varied exercise I trusted more for relief than to all the other means combined.

Although he had not the power of abridging the paroxysm when it has commenced, yet, by avoiding the melancholy musing, which may be considered the first link that, by habitual association, introduces the convulsive motion which terminates in the globus hystericus—yet, I repeat, by abstracting his attention from the past, he had it in his own power to diminish the frequency of the hysteric symptoms, or totally to avoid them. I also forbad him, under penalty of bread and water, to shrug his shoulders (as well as those expressions which implied disgust of life); for many examples in common life concur to prove that the muscular expression of passion (by which I include not only anger, but melancholy, despair, &c.), if carried to excess, gradually produces its corresponding mental effect.

18th. The means employed kept him in awe, and the fits were weak; but restlessness, and the conviction that he had an evil spirit, continued.

22nd. He seemed to be more reasonable; his countenance had a happier physiognomy, and no distinct paroxysm had occurred since yesterday. The globus hystericus now left him, and did not return.

25th. Omitted the emetics, continued the opiate, and yielded to his solicitation for an increase of diet.

30th. Last night he exhibited symptoms of discontent without being able to assign a cause; and, this morning, conversed very irrationally. The idea is returned, that he must kill somebody. An inconsiderable epistaxis occurred early this morning.

In his youth, he was considered as imbecile, with a very defective memory. At the present moment however, although the acts of yesterday are remembered obscurely, yet the most minute circumstances that occurred in early life, particularly between the ages of ten and twelve, are restored with a vivacity which he describes in energetic language; indeed in numerous instances, he manifests a singular shrewdness; and, although it is an humiliating reflection, nevertheless instances demonstrate too often how short the distance is between genius and insanity.

There was now evidently a morbid activity of the nervous system, as well as a tendency to produce too much blood. His eyes had somewhat of their former wildness, and his whole body was in restless motion.

It was judged prudent to put on the straight waistcoat immediately; one active emetic was instantly given; his diet reduced to bread and water, and he was kept continually walking.

December 3rd. He again became much more rational. All restraint was removed; and he was made to attend to the wants of the whole ward. In the French translation of Hufeland's *L'Art de prolonger la Vie Humaine*, the case of a French officer, who, on account of some private misfortunes, had resolved to starve himself to death, (and actually fasted during forty-five days,) is terminated by the following observation: "It is interesting to remark, that while he fasted, he was exempt from delirium; but as soon as nourishment had restored his strength, his brain became deranged anew, and all his absurd ideas reappeared." But it was evident in Bloste's case, that the functions of the whole brain were not affected, as was proved by his warning others to avoid him, even when he was under the influence of the paroxysm.

4th. His eye had again lost that wild quick motion, which for some time after his admission was so characteristic of mania. The good effect of the emetics during their continuance, the return of the disease on an increase of diet and omission of emetics, evince, that the quality of the food has a very decided influence over the reason and judgment; which, in fact, are merely relative terms that refer to a common standard, and somewhat strengthen the opinion of Locke, that mind is matter. Yet nothing amiss in the functions of the stomach is to be observed; nay, the lacteals seem to act with too much energy, or a superabundant chyle forms more blood than the system can dispose of, as is marked by the occasional epistaxis.

10th. He is now as cheerful as any of his companions, and joins in the laugh at his former belief of an evil spirit. He feels convinced that it is in his own power to prevent a relapse, and therefore seizes every opportunity to make himself useful; and not a gesture that marks impatience is ever observed by his fellow patients. He still takes the opiate at night.

16th. No change can be observed in his conduct or conversation.

The bread and water which formed the chief articles of his diet latterly, may perhaps seem an unnecessary hardship; but whoever had seen the serenity of countenance and calmness of action which he rapidly acquired under the influence of the two great precepts of Pythagorus, frugality and exercise, would have thought him another being from the maniac, with the ferocious look and restless gesture. Indeed I have found from close observation on myself, that when I fed highly and lived indolently, the least thing served to ruffle my temper; whereas frugality and exercise introduced a third virtue, which kept me cool under supposed danger or actual misfortune.

Others may think that blood should have been abstracted; but venesection seems, under favourable circumstances, to produce the same effect on the system, as the developement of a new organ (of which Natural History presents innumerable examples in the spring), or a new arterial trunk to be supplied, or an equivalent, as issues, which seem to have led the Italians into the error, that some diseases of the orders hæmorrhagiæ and profluvia were instituted by Nature to throw off something injurious to the body; or in other words, they confounded the cause with the effect.

IV.

AN ESSAY ON DISEASES
RESEMBLING
THE VENEREAL DISEASE.

BY A PHYSICIAN.

INTRODUCTION.

It happens, unfortunately for science and for the world, that medical men set out with certain fixed views and theories of disease, whereby their judgment becomes so blinded and so warped, that subsequent practice and experience are unable to remove the first impressions which have been received. The young practitioner comes from the lecture-room stored with theories; he has heard every disease described in nosological order; and he expects to find all maladies observing a regular, defined course and appearance: and although a little experience is sufficient to shew him that disease appears under many varied forms, which no nosology, however comprehensive, can embrace or describe, yet, having no names for disease but those taught in the schools and books, and being anxious to give to every malady or diseased appearance a name, in order to ward off the imputation of want of knowledge in his art, he has recourse to his nosology, and borrowing thence a name, he applies it indiscriminately to diseases, which, if minutely examined, would be found to differ in their nature and character, although their prominent features may be similar. It is thus that all indolent diseases are called scrophulous, and all maladies that are incurable, cancerous: it is thus that symptoms which resist other remedies and yield to mercury, as well as all diseases occurring on the organs of generation, and all constitutional diseases which can be traced to any affection of these organs, are hastily and indiscriminately considered as venereal. I need not dwell on the importance of being accurate in our diagnosis, when the disease under consideration has any symptoms resembling those of lues venerea. It may happen that syphilis may be mistaken for some other complaint; and when that is the case, the venereal virus may be allowed to take such deep root in the habit, that the discovery of the real nature of the complaint, if ever made, comes too late, when the constitution is worn out and unable to bear the means necessary for its relief. But it much oftener happens that a complaint which is not venereal, is considered and treated as such; the patient is sentenced to a course of mercury, which may not only be inefficacious, but may be productive of the worst effects. But this is not the only mischief that results from mistaking complaints for venereal symptoms: the character of the patient may suffer undeservedly from unfounded suspicions; or irregularities in his conduct, which might have remained concealed, are brought to light and published, and the peace of a family may be disturbed or destroyed for ever.

PART I.

In treating of diseases which resemble venereal diseases, I shall consider the primary and secondary symptoms of lues venerea separately, pointing out their usual appearances and characters, enumerating afterwards the complaints which may be mistaken for such venereal symptoms, and offering remarks on the mode of distinguishing between these complaints and venereal affections.

It must be remembered that my descriptions of the venereal disease are intended as portraits of the disease as it appears in England: I have no certain means of ascertaining how far climate and manners may affect its appearance and character. That the disease is in some unknown manner modified in some countries, so as to be curable by means which in this island have been found unavailing, appears from the reports of different writers. It is said that in Portugal little or no mercury is employed in the cure of venereal symptoms, whether primary or secondary; and that in some parts of Germany, and of

Russia, the opposers of the use of that mineral are numerous. In other situations the disease may appear under an aggravated or altered form. It has been argued that the sibbens (or sivvens) of Scotland, the disease which broke out about thirty years ago in the Bay of St. Paul in Canada, and that known in Norway by the name *radesyge*, and some parts of Sweden by the term *saltfluss*, are all varied forms of the venereal disease. But I shall not enter into the discussion.

Mr. Hunter had remarked* that undescribed diseases resembling the venereal were very numerous; and Mr. Abernethy† has roused the observation of medical men by his remarks on diseases resembling syphilis.

It has been found that primary symptoms, followed by secondary symptoms, may present themselves, all imitating closely the venereal disease in its primary and secondary stages, and yet not be venereal. Symptoms resembling the secondary appearances of the venereal disease occur, also, without any preceding primary symptom, and turn out not to be venereal. In many of these cases the character of the party has been above all suspicion: in others the symptoms got well without any remedy; in others, common alteratives, such as decoction of the woods, subdued the complaint.

In almost every case of doubt, mercury is considered as a test; if a disease does not yield to, or is exasperated by that mineral, it is almost universally considered as not being venereal. This, however, may not be considered by all as a certain rule or proof; the rule is grounded upon the assumption of two axioms, namely, that mercury will cure every case of syphilis, and that no case of syphilis will get well without mercury.

As general rules, these may be allowed; but it must be recollected, that all general rules have exceptions, and the practitioner must keep his mind unfettered by theory, always open to facts, not conceding any established modes of thinking or of practising upon light grounds, and never refusing to allow of any well-authenticated facts, however strongly they may militate against the notions which he has formed. Diseases which resemble the venereal disease have been called by the name cachexia syphiloidea, or pseudo-syphilis. These terms being used to designate such diseases, and being applied to every case where the symptoms resemble strongly those in lues venerea, but prove not to be venereal, and yet are not referable to any head in our nosologies; it is more than probable, that diseases differing in their nature, but agreeing in imitating syphilis, have been comprehended under the general name cachexia syphiloidea. The subject has not been very long agitated, and the present state of our knowledge on this head is limited, imperfect, and confused. I shall not attempt to describe any regular set of symptoms under a name which is used to embrace every anomalous appearance.

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* *Treatise on the Venereal Disease.* † *Surgical Observations.*

The venereal disease is progressive, not disappearing without means of art; the powers of the constitution being unable to subdue it. The symptoms of lues venerea, generally speaking, occur in regular succession; the primary symptoms being followed by the first class of secondary symptoms, and these leading to those of the second class. The symptoms, where the disease has been left to itself, are pretty strongly marked; and may, in most cases, be recognized by an experienced eye; but where the patient has been tampering with his complaint, and has been using mercury in inefficient or excessive quantities, the appearance of the symptoms becomes altered, and the case obscure. Mercury, improperly administered, aggravates the disease, and frequently brings on symptoms as severe as the original venereal complaint. It were better to do nothing, than to give mercury in insufficient quantity. In every obscure case, (and many will be constantly presenting themselves,) the history of the case, and the treatment that has been adopted, and especially the primary symptom or symptoms, must be closely and minutely inquired into; and the length of time that has occurred since the disease was contracted, and between the appearance of the several symptoms, must be ascertained; the character and credibility of the party must be taken into the account; it must be recollected what the diseases and what the symptoms are which resemble venereal symptoms; and from an attentive consideration and review of all these circumstances the practitioner must form his diagnosis.

Of Sores in the Organs of Generation.

Although syphilis was unknown in Europe prior to the siege of Naples in 1494, yet diseases of the generative organs occurred, and were described long before. Ulcers on these parts are described by the old Greek, Roman, and Arabian writers. Celsus, in his chapter, "*De obscænarum partium vitiis,*" particularly mentions several kinds of ulcers on the penis. Gulielmus de Saliceto, of Placenza, who wrote in the year 1270, speaks, "*De pustulis albis vel rubris, et de milio et scissuris quæ fiunt in virgâ vel circa preputium propter coitum cum fætiad muliere aut cum meretrice, aut ab alia causâ.*" Lanfranc, of Milan, in 1290, speaks of a sore on the penis arising "*Ex commissione cum fæda muliere quæ cum ægro talem habente morbum de novo coierat.*" Bernard Gordon, professor at Montpellier, in 1300, speaks of several diseases of the penis arising from intercourse with a woman, "*Cujus matrix est immunda plena sanie aut virulenta.*" In 1400, Valescus de Taranta, also professor at Montpellier, says, "*Pustulæ virgâ fiunt si quis coëat cum fœminâ habente ulcus in matrice.*" Peter de Argeleta, or Argellata, of Bologna, has a chapter, "*De pustulis quæ adveniunt virgæ propter conversationem cum fœda muliere, quæ albæ sunt vel rubræ.*" These authorities are all collected by Astruc*. Public stews, subject to severe regulations, were common many years before the appearance of syphilis; and a heavy penalty was exacted from a stewholder, if any person was infected by the women in this stew. In a statute, "*Di disciplinâ Lupânaris publici Avenoniensis (Avignon),*" made in 1347 by the Queen of the Two Sicilies, who was also Countess of Provence, occurs this passage, "*Jubet Regina Sabbato quolibet a Bayliva una cum chirurgo a consulibus proposito, mulieres meritorias singulas lustrari; quotcunque in lupanari prostant. Et si qua scortatione ægritudinem ullam contraxerit a ceteris seponi ut seorsim habitet, ne sui copiam facere possit; ut morbi præcaveantur qui a juvenibus possent concipi.*" Stews were allowed in England, subject to certain laws. A statute of 1163 forbids any stew-holder to keep any woman having the *perilous infirmity of burning.* In another statute of 1430, any stew-holder keeping a woman having "*nefandam infirmitatem,*" was liable to a penalty of one hundred shillings. This "*nefanda infirmitas*" was called brenning, which means *ardor urinæ.*

The preceding extracts are here copied, to shew, that in all ages, diseases of the genitals have been known; and we are not to suppose, because in our latter days the curse of syphilis is entailed upon us, that we are to escape the diseases to which our forefathers were liable.

The variety of sores occurring on the organs of generation is so great, that I shall not pretend to describe them all. I shall first mention the characteristic appearances of chancre, and thus all other primary ulcers will be negatively described. If we can say exactly what is chancre, we may distinguish other sores from it by their wanting those characters which mark the primary sore of syphilis.

Chancre appears in men on the glans penis, on the frænum, in the angle between the frænum and the glans, at the orifice of the urethra, on the prepuce, on the body of the penis, and sometimes on the pubes and the scrotum. In women, on the labia, the nymphæ, the clitoris, and in the vestibulum.

A chancre comes on with itching of the part, and sometimes in men with a frequency of making water. A small vesicle, pimple, or pustule appears; this bursts, discharging a thin purulent fluid. The small sore, which is very painful, and is attended with general uneasiness, is circumscribed; rather circular, excavated, without granulations, with a thickened base, and with prominent hard, horny, edges, terminating abruptly. The sore is covered with an ash-coloured slough, and increases progressively. When the skin on the body of the penis is the seat of chancre, the ulcer is more superficial, more diffused, of a darker hue, and less indurated; and not unfrequently covered with a scab. There are not many chancres present in the same case, often only one, seldom more than two or three. Although the genitals are the parts usually affected with the primary sore of syphilis, yet if the virus be applied to any secreting surface, or to any part deprived of cuticle, a sore may be produced. Mr. Pearson saw a case in which a sore had formed on the thigh, which spread and destroyed the end of the femur before the nature of the disease was known. This sore arose from the virus being applied to a part where the cuticle had been rubbed off. Thus accoucheurs having the skin of the fingers abraded, have contracted the disease which has contaminated the glands in the axilla. These glands have also been affected from primary sores on the nipple.

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* Lib. i.

From the preceding account it appears, that the primary syphilitic sore is strongly marked; and yet we have the authority of persons thoroughly conversant with venereal disease for saying, that there is no appearance exclusively peculiar to chancre. The great leading characteristic of chancre, is callosity; this borne in mind, will be of the greatest importance in enabling us to decide upon the nature of primary and of secondary symptoms; still we must recollect, that a sore wanting the character of hard edges, and not being syphilitic, may, nevertheless, by stimulating applications, or by irritation from any cause, have hardness and thickening of the edges induced, and these sometimes subsiding and again returning. If quietude, then, and soothing applications reduce the hardness and thickening, or if these symptoms disappear spontaneously, or in either case, if they often go away and return again, such sore is not to be considered as syphilitic. Chancre occurs at various periods after exposure to the contagion; it has appeared in twenty-four hours, and as late as seven weeks, or two months; but from two to three days to as many weeks, will generally include the time of its appearing.

Sores and excoriations of the glans or prepuce, with phymosis and other troublesome symptoms, may be produced by the natural secretion of the prepuce, and behind the corona glandis, being rendered more stimulating; as by the use of mercury, want of cleanliness. Sores may thus arise on the scrotum, in the angle between the scrotum and thighs; and between the labia and thighs in women. Excoriations may also arise on the glans, or the internal prepuce in gonorrhœa from erosion of the cuticle. They may arise from coition with a woman who has discharges from the vagina, from Onanism, from the use of prophylactic washes and applications. In all these cases the sore is superficial, often irregularly extended; there is rarely loss of substance, the sore will generally heal readily, and we shall be enabled to distinguish it from chancre by the history of the case, and by the want of those appearances which belong to chancre.

Herpes præputialis is an eruptive disease first mentioned by the late Mr. Royston*, and is well described by Dr. Bateman, whose words I shall copy. It commences with heat and itching; "one or two red patches then appear, about the size of a silver penny, upon which are clustered five or six minute transparent vesicles; which, from their extreme tenuity, appear of the same red hue as the base on which they stand. In the course of twenty-four or thirty hours, the vesicles enlarge and become of a milky hue, having lost their transparency, and on the third day they are coherent, and assume an almost pustular appearance. If the eruption is seated within that part of the prepuce, which is in many individuals extended over the glans, so that the vesicles are kept constantly covered and moist, (like those that occur in the throat,) they commonly break about the fourth or fifth day, and form a small ulceration upon each patch. This discharges a little turbid serum, and has a white base, with a slight elevation at the edges; and by an inaccurate or inexperienced observer, it may be readily mistaken for chancre; more especially if any escharotic has been applied to it, which produces much irritation, as well as a deep-seated hardness beneath the sore, such as is felt in true chancre. If no irritant be applied, the slight ulceration continues till the ninth or tenth day, nearly unchanged, and then begins to heal; which process is completed by the twelfth, and the scabs fall off on the thirteenth or fourteenth day. When the patches occur, however, on the exterior portion of the prepuce, or where that part does not cover the glans, the duration of the eruption is shortened, and ulceration does not actually take place. The contents of the vesicles begin to dry about the sixth day, and soon form a small, hard, acuminated scab; under which, if it be not rubbed off, the part is entirely healed by the ninth or tenth day; after which, the little indented scab is loosened and falls out." This affection "is liable to recur in the same individual, and often at intervals of six or eight weeks†." It is said to depend upon, and to be connected with, irritable urethra and stricture. If attention be paid to the foregoing description, as well as to the symptoms and appearance of chancre, and to the history of the case, there will be little hazard of mistaking herpes of the prepuce for a syphilitic affection. At all events, if a few days are suffered to elapse, all doubts and difficulties will vanish.

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* *Med. and Phys. Journ.*, vol. xxiii. p. 441; and *Med. Repository*, vol. i. p. 206. † *Practical Synopsis of Cutaneous Diseases.*

In sibbens and in yaws, and in the Norwegian disease radesyge, the penis may partake of an eruption, terminating in ulceration, which at the same time attacks other parts of the body; the penis not being affected primarily, but through the medium of the constitution. I shall have occasion hereafter to notice some of the characters of these diseases.

Women are liable, during pregnancy, to be affected with troublesome sores of the genitals. Hippocrates mentions aphthæ occurring in pregnancy. These aphthous sores sometimes spread, destroying the nymphæ or the labium, attended with distressing pruritus. Women labouring under fluor albus, or other discharges, are also subject to sores on the genitals; as they are also at the cessation of the catamenia. Hæmorrhoids, when very troublesome, may produce ulcers about the anus and the labia. Procidentia uteri may induce ulceration of the vagina. Want of cleanliness assists in the production of all these sores. Whatever causes erosion in these parts, will produce a small denuded surface, secreting a purulent fluid. Such erosion may be produced by violent friction, which women resort to when they labour under pruritus, or prurigo pudendi, which is a most tormenting complaint, consisting of severe itching of the parts, with fulness and redness, attended sometimes with papulæ or aphthæ. This affection is connected with hæmorrhoids, ascarides in the rectum and leucorrhœa. It is possible that some of these cases may be mistaken for cases of chancre; but the knowledge that such cases exist, attention to the history and circumstances of the case, the character of the woman, and, if married, that of her husband, together with attention to what has been said when speaking of chancre, and the absence of other symptoms, all these together will enable the practitioner to form a correct opinion as to the nature of the case.

But a sore may in the first instance be syphilitic, and its nature and character may be afterwards entirely changed. In some cases the chancre is followed or attended by violent active inflammation, which, unless soon subdued, may run into mortification, terminating in sloughing. This particularly happens where phymosis is present in the first instance, and where, superadded to an irritable habit, there is want of cleanliness. The prepuce is sometimes eroded, having a hole made through it, part of the glans appearing through the opening, giving to the penis the appearance of a double glans. The penis in these cases is sometimes extremely enlarged, and the whole of the glans and prepuce are in a rotten state. If suppuration takes place, the tension of the penis from the unyielding nature of its structure, is very great. The integuments are red; but no fluctuation is discovered, from the tense state of the part. If an opening is not made to evacuate the matter, ulceration of a troublesome kind may ensue.

In some cases, in very irritable habits, upon which mercury acts as a poison, especially where the patient is confined in a close mercurial ward, the exhibition of that remedy shall cause the ulcer to spread, preceded by discolouration and hard tumefaction of the whole body of the penis; and when the ulceration arrives at the corpora cavernosa, its progress is most rapid and alarming. It eats its way as high as, or within, the ossa pubis, destroying the patient, or mutilating him dreadfully. The irritation, pain, and constitutional disorder in such a case, are very great. This is a picture of an extreme case: there are many shades of a milder form, as to progress and danger.

In mortification and phagedæna of the penis, it is not very material whether we consider the first symptom to have been chancre or not; at least during the existence of the mortification or phagedænic ulceration. In any view of the case, mercury is improper, and will only assist the spreading of the mischief. If, however, we know that the first symptom was a syphilitic sore, it may be necessary to have recourse to mercury, when a stop has been put to the subsequent spreading ulceration; and it is possible that the repetition of that mineral may again put the ulcer in motion and induce its malignant character. Our rule then must be this:—If the venereal sore shall have communicated its virus to the absorbents of the penis, beyond the point to which the subsequent sloughing or phagedænic ulceration reaches; or if the inguinal glands have been contaminated; or if, after the separation of the slough, a hard, painful sore is left, disinclined to heal—in all these cases mercury must be cautiously introduced, carefully avoiding every possible circumstance which can call forth the injurious effects of that remedy.

During and subsequent to a mercurial course, the penis is liable to be attacked with ulcers of the glans and prepuce, of a very troublesome nature. If the original sore has healed without leaving any hardness, and the patient has not been exposed to fresh contagion, we are not to consider any fresh ulcerations of this part as syphilitic, however troublesome they may prove.

Projecting sores, studding the end of the prepuce, and connected with a discharge from the internal prepuce, are frequently met with. The sores have a granulated divided surface, somewhat resembling a venereal wart, but more flattened. These sores come out sometimes in succession. In all the cases of this kind that I have seen, mercury has been employed. I cannot, therefore, say whether, if left to themselves, they would be followed by secondary symptoms or not. Mr. Abernethy* considers them as not being venereal, and not requiring mercury. Dr. Adams† styles them "red, soft warts."

I said that I should not endeavour to describe every possible sore which may present itself on the genital organs; they will be best distinguished from the primary syphilitic sore, by recollecting the characters of chancre. The sores which occur on these parts, and are communicated by impure connexion, but which are not syphilitic, are, by Mr. Carmichael‡, referred (independently of excoriation connected with gonorrhœa preputic) to the following species:

Superficial ulcers, without induration, but with elevated edges; similar ulcers, without induration, or elevated edges; phagedenic ulcer; and the sloughing ulcer.

Cancer has been mentioned as a disease which may be mistaken for venereal ulceration of the penis. But cancer never perhaps appears primarily as a sore, but is preceded by long-continued induration, or by warty excrescence. The description of the cancerous wart will be given under the head Warts. The sores most likely to be confounded with cancer, are, the sloughing and the phagedænic sores (whether preceded by chancre or not), and the sores which sometimes occur after a course of mercury. The knowledge of the first cause and appearance of the sore, the progressive erosion and destruction of the penis, the history of the case, its duration—all these will enable the practitioner to distinguish between these cases and cancer of the penis; in which latter affection the diseased part forms an addition to the bulk of the penis, remaining still attached to it.

In all cases where we have suspicions that the sore is chancre, but where, at the same time, it is extremely doubtful, it may be better to wait until some new appearance or some new symptom arise to put the case beyond doubt, supposing it really to be syphilitic, and to wait until that new symptom be urgent. Commonly, unless the patient should be particularly irritable, and very much affected by mercury, if the sore have many of the characters of chancre, although we may not be certain that it is chancre, it will be more prudent to introduce mercury cautiously. If the sore heal speedily under mercury, there can, generally speaking, be no objection to the introduction of that quantity of mercury which is necessary to guard against secondary symptoms, should the case really be syphilitic. This will not only save the patient a great deal of time and suffering, supposing his affection to be syphilitic, inasmuch as a secondary attack will be spared, but it will also throw considerable light on any future symptoms that may arise, should symptoms resembling the secondary symptoms of syphilis occur after the patient has gone through a proper mercurial course for his primary symptom.

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* *Surgical Observations.* † *Observations on Morbid Poisons.*

‡ *Essay on Venereal Diseases, &c.*

Of Discharges from the Urethra (in Men) which resemble Gonorrhœa.

Men are subject to discharges of a purulent fluid from the urethra from various causes, independent of the discharge termed gonorrhœa.

A discharge of a purulent fluid, attended with more or less uneasiness in making water, may arise from connexion with a woman who has discharges from the vagina which are not venereal. In irritable habits, coition with a woman who has the catamenia will bring on discharge and heat. In all these cases, the history of the case, the character of the parties, the knowledge that the woman has discharges, together with the comparative mildness of the symptoms, will enable the medical attendant to pronounce accurately on the nature of the discharge. Such discharge may also be produced by blows on the perineum, hard riding, intemperate living, Onanism, excessive venery, stricture, extraneous substance in the urethra, calculus in the urethra, stone or any other irritation in the bladder. Inflammation of the kidney, or of the bladder, terminating in suppuration, will cause pus to be voided by the urethra. Metastasis of the gout has caused a discharge from the same passage.

In all cases where discharge is brought on by any of the causes just enumerated, a little attention and inquiry will lead the practitioner to an accurate diagnosis. The time that has elapsed since the last suspicious connexion, must be taken into account: it may be so long as to preclude the possibility, or any thing like the probability, of the discharge being gonorrhœa. It is difficult to limit the time in which gonorrhœa appears after impure connexion: it has occurred in a few hours; almost always in a few days; seldom beyond three or four weeks. The patient will recollect having had any severe blow on the perineum; his own conscience will accuse him, if Onanism be the cause of the discharge; besides, it is not likely that those who indulge in this solitary vice will be affected with any-thing that results from connexion with the other sex; since the adoption of so unnatural a mode of getting rid of a passion, proves that they have little opportunity or inclination to indulge in that way which nature points out: and where the vicious custom of Onanism has been so long persevered in as to induce a thin glairy discharge from the urethra, there will generally be present symptoms of great constitutional debility, pallor, emaciation, loss of appetite, and very often hectic symptoms*.

When stricture is, as it very often is, the cause of the discharge, if the stricture be recent, the patient will complain of frequent desire to make water, and of uneasiness below the frænum or just within the urethra. If he be very irritable, or have had connexion with a woman who has discharges from the vagina (such discharge not being that of gonorrhœa), he will have great irritation about the orifice of the urethra, together with great heat of urine; and in this state the case may be, and very commonly is, mistaken for gonorrhœa. But the violence of the symptoms will generally soon subside, if the patient avoid exercise and stimulants. The bladder will gradually accommodate itself to a stricture in an early stage; but after the lapse of some months, or years, the obstruction to the flow of urine shall become so great, that the bladder, in its endeavour to overcome this obstruction, must act very violently. Here again there will be discharge and difficulty of making water. The pain is a forcing pain about the neck of the bladder and in the situation of the stricture. The discharge is in some cases completely purulent, with some of the glairy secretion of the prostate gland, or there is a mixture of white films floating in the urine, or a deposit of matter like hair-powder, or of a substance which has been compared to vermicelli. The urine has often a very peculiar, unpleasant odour. Uneasy creeping sensations in the urethra, rigors, great sympathy between the stomach and the urethra, and a twisted or forked stream of urine, also characterise strictures of long standing. The introduction of a bougie will of course at once ascertain the nature of the complaint.

The presence of an extraneous body in the urethra must be known to the patient. When a small calculus gets into the urethra, the passage of the urine will be obstructed. Here the previous symptoms, the knowledge that the patient has been in the habit of voiding small calculi, attention to present symptoms, and especially the introduction of a catheter or bougie, will at once point out the cause of the symptoms. A difficulty of making water, frequent attempts to pass it, great pain attending such attempts, and a discharge of a mucous or purulent fluid, may arise from irritation or inflammation of the internal coat of the bladder, by whatever cause produced. Here the pain will be more in the region of the bladder and in the perineum; and the violence of the symptoms, together with the sympathetic affection of the stomach which often accompanies them, will leave little or no room for mistaking such a case for gonorrhœa; more especially if we carefully investigate the first attack of the complaint. Where a calculus in the bladder is the cause of difficulty of making water, and of discharge, there will be uneasiness and troublesome itching at the orifice of the urethra—perhaps a dull pain in the bladder; the urine is in some cases voided better when the patient is in a recumbent posture, than when he stands up: there is a mucous deposit in the urine, and perhaps a tinge of blood. A frequency of making water, succeeded by a discharge of pus, may be the consequence of inflammation of the kidney: but here the symptoms attendant on nephritis will point out the case; such as pain in the region of the kidney, numbness of the thigh, retraction of the testicle, and sickness. Calculous concretions in the kidney may produce the same effects; and the same symptoms will be present, with the addition of a discharge of red crystals in the urine, and frequently of blood, with pain in the loins, increased on motion: and in both these cases there will be an absence of ardor urinæ, and of inflammation of the meatus urinarius.

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* The same symptoms may arise from excessive indulgence in venereal pleasures.

It is hardly allowable to mention strangury, produced by cantharides whether externally applied or internally administered, among the cases which may be mistaken for an incipient gonorrhœa.

True gonorrhœa must be distinguished from that discharge from the internal prepuce which may be produced by any thing causing irritation there or behind the corona glandis, as warts, the use of mercury, want of cleanliness, &c.

Of Discharges from the Vagina, which may be mistaken for Gonorrhœa.

From the difference of structure, women do not suffer as much pain and inconvenience in gonorrhœa, as men. Women are also so very subject to mucous and purulent discharges, that when they really labour under gonorrhœa, the appearance of the discharge often excites no alarm or suspicion.

In order to caution the practitioner against too hastily taking up the idea, that discharges from the vagina are the result of impure coition, I will enumerate the most common causes of vaginal discharge. These are, great general debility, local debility, want of cleanliness, local disease; as polypus, or other tumours or excrescences of the uterus, scirrhous uterus, ulcer of the uterus, partial inversion of the uterus, procidentia uteri aut vesicæ, impregnated uterus, hydatids of the uterus, warts in the vestibulum. Disease in the neighbourhood; as piles, collection of fæces in the rectum, calculus, or other diseases of the bladder, fulness and thickening of the cellular membrane surrounding the urethra, the presence of pessaries, in short, whatever causes an increased determination of blood to these parts. A discharge from the vagina, commonly called fluor albus, occurs also at a middle period of life, when a change takes place in the uterine system, on the cessation of the catamenia.

When a woman complains of having a discharge from the vagina, we must not rest satisfied with the knowledge, that she has a discharge; but we must ascertain the appearance of the fluid. It may be mucous, purulent, watery, or tinged with blood. We must bear in mind all the possible causes of these several discharges, recollecting the symptoms attendant upon them. If the character of the woman and of her husband are not above suspicion, then proceed to the investigation. The knowledge that the woman has had repeated or recent miscarriage, of her being with child, or of her having some of the diseases above-mentioned, the presence of hysterical symptoms, pain in the back and loins, the peculiar sensation termed bearing-down, all these will assist us in our diagnosis. But where all these are insufficient, we must examine per vaginam; by such examination, we shall find out whether there be any enlargement of the uterus from impregnation or from disease, any displacement or other disease of the uterus, or any extraneous substance in the vagina; if we find any of these, the cause of the discharge will be explained; if not, we shall have the advantage of having materially abridged the catalogue of complaints, from which discharge of the vagina may arise. A discharge of a purulent fluid, may also be the consequence of ulceration of the vagina, and of collections of matter in the sides of the vagina. But these causes can only clearly be ascertained by examination.

Of Phymosis.

The existence of phymosis is by no means a proof that the part has been exposed to venereal contagion. It may be natural. In one case I removed about two inches of prepuce where the glans penis had been from birth entirely concealed; and where there was scarcely any thing like an orifice, the urine finding its way through a puckering of the skin at the upper part. The patient, a lad, came under my care for gonorrhœa. Phymosis may be the consequence of want of cleanliness; it may be produced by fingering the part much; by Onanism; by inflammation produced by any cause, as by riding; by connexion with a woman who has discharges from the vagina, other than gonorrhœa, &c. Œdema of the integuments will, of course, prevent the retraction of the prepuce.

(To be continued.)

PART II.

ANALYTICAL REVIEW.

I.

Précis Elémentaire de Physiologie. Par F. MAJENDIE. Tom. 2de. à Paris, 1817.

THIS volume is very recently published, and, through the author's kindness, we are able to offer to our readers an early account of its contents—" *The History of the Nutritive and Generative Functions.*" The former are first treated of under the following divisions:—digestion; absorption and course of the chyle; course of the lymph; venous circulation; respiration; arterial circulation.

There exists an evident relation between the structure of the digestive canal of each animal, and the substance suited to nourish it. In herbivorous animals the digestive apparatus is extensive and complicated; in carnivorous, short and simple. Man maintains a medium in the disposition and structure of his digestive organs, being destined to receive support equally from vegetable and animal substances: he cannot, however, be called omnivorous, as animals eat and digest many substances which, taken into the human stomach, afford no nourishment.

The surface of the membrane lining the whole of the alimentary canal is lubricated by a viscid transparent fluid, a part of which is continually evaporating, so that there exists always a certain quantity of vapour in every part of the canal. This fluid is often found in greatest abundance where there are no mucous follicles or glands, a circumstance which seems to prove that these are not the only organs which secrete it. In the stomach this fluid is mixed with the saliva and other secretions of the mouth and pharynx, which are swallowed at short intervals; and this mixture of different fluids is what physiologists have called the gastric juice. It would seem, from this account, that, when the stomach has been some time without receiving food, an accumulation of mucous, follicular, and salivary fluid would take place; but observation has often shewn the contrary. In animals, after several days of starvation, M. Majendie has found only a little viscid mucus at the left extremity of the stomach. A physician, who possessed a voluntary power of vomiting, could only raise two or three ounces of this fluid from the stomach in a morning; but, by previously taking a mouthful of any aliment, he could, in a short time, procure half-a-pint of it. The internal membrane of the small intestines is covered with a fluid little different from what is found in the stomach; and M. Majendie has ascertained, by experiment, with what great rapidity this fluid can be secreted. A portion of the mucous membrane of this intestine being exposed in a living dog, and the layer of mucus adhering to it wiped off with a sponge, not a minute elapses before it appears in as great a quantity as before; and this observation may be repeated with a like result, until the contact of air, and a foreign body, excite inflammation.

> "No one, I believe," says M. Majendie, "has observed, in a living man, the manner in which the bile and pancreatic fluid are discharged into the duodenum. In some animals, such as dogs, these fluids flow at intervals, a drop of bile oozing from the orifice of the biliary duct about twice in a minute, and diffusing itself uniformly over the surface of the intestine: thus a certain quantity of bile is always found in the small intestine.
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> "The fluid formed by the pancreas flows into the duodenum much in the same manner, but more slowly, a quarter of an hour sometimes elapsing before a drop of it issues from the orifice of the pancreatic duct. I have, however, in some cases, seen the pancreatic fluid flow with considerable rapidity."—p. 16.

M. Majendie thinks that it is impossible the soft palate should be elevated so as to apply itself to the posterior nostrils; but there appears to us plenty of evidence that this does take place, whatever conclusions may be drawn from anatomical dissection of the parts. In expiration we easily send all the air through the mouth, which could not happen if the posterior nostrils were not completely closed.

Deglutition may be divided into three stages. In the first, the substance to be swallowed passes from the mouth into the pharynx, chiefly by the action of voluntary muscles. In the second, it reaches the commencement of the œsophagus, by the simultaneous and rapid action of muscles not under the controul of the will. Its passage through the œsophagus, in the third stage, is slow and gradual, two or three minutes sometimes passing, before the substance reaches the stomach. In the two upper thirds of the œsophagus, the relaxation of the circular fibres succeeds immediately to the contraction by which the food is propelled towards the stomach. A peculiar phenomenon has been noticed by M. Majendie in the lower third of the œsophagus; the circular fibres remain in a state of contraction for several moments after the aliment has reached the stomach, and an alternate change of relaxation and contraction occurs for a considerable time afterwards.

"It is this alternate motion of the lowest third of the œsophagus which prevents the aliment from returning again into its cavity. The more the stomach is distended, the greater is the intensity and duration of the contraction, and the shorter the period of relaxation. The contraction generally coincides with the moment of inspiration, when the stomach is most strongly compressed. The relaxation happens most commonly at the instant of expiration."—p. 78.

The food remains nearly one hour in the stomach without undergoing any considerable change. The chyme is principally formed in the pyloric half of the stomach, the aliment in the left or splenic portion still retaining its properties until it changes its situation. The chyme, as it forms, is gradually propelled into the duodenum, two or three ounces being the greatest quantity which M. Majendie has found accumulated in the pyloric portion of the stomach. The time required for the digestion of food must evidently vary according to the quantity, the quality, the preparation it has undergone before reaching the stomach, and the peculiar disposition of the individual; but in four or five hours after an ordinary meal, the transformation of all that has been taken into chyme will generally be effected. The interruption to the process of digestion which has been found to follow the division of the eighth pair of nerves in the neck, is attributed by M. Majendie to the injury which the function of respiration sustains by such an operation.

"I am inclined," says he, "to this opinion, because, if you divide the eighth pair of nerves in the chest, as I have often done, below the branches which are sent to the lungs, the food in the stomach is converted into chyme, and chyle is afterwards plentifully formed from it."—p. 95.

The phenomena which attend the progress of the food through the small and large intestines, as they appear in a living animal, and the changes which the food undergoes, are admirably detailed. The digestion of fluids, which preceding physiologists have almost overlooked, furnishes the subject of many interesting pages. The circumstance of liquids being digested, ought, our author observes, to have taught us to reject the systems of *trituration*, *maceration*, &c. which have been set up to explain digestion. Fluids, when taken into the stomach, occupy chiefly the left and middle portions of it; they remain a less time in this organ than aliments; but the manner in which they pass out of it into the duodenum is little understood. Water becomes mixed with the secretions and other contents of the stomach, without forming any chyme. Alcohol is absorbed in the same way; but the albumen which it meets with is coagulated, and afterwards undergoes digestion as a solid substance. Fluids therefore may be divided into two classes; those which are in part or wholly converted into chyme, and those which form no chyme. Oil, M. Majendie thinks, is completely converted into chyme, the reason why it remains longer in the stomach than any other liquid. Milk coagulates in the stomach, and is acted upon as a solid aliment. The power of swallowing atmospheric air, which has been thought a rare occurrence, has been met with by M. Majendie in eight or ten medical students out of a hundred. In certain diseases, patients swallow air involuntarily, without being aware of it. A physician of the author's acquaintance, whose digestion was habitually laborious, used to render it less so by swallowing a few mouthfuls of air.

The chyle offers slight variations, according to the substances from which it has been formed; but M. Majendie has never observed it tinged with colouring matters, as saffron or indigo, that had been mixed with the aliments. Of the three substances into which the chyle separates on standing, the coagulum or solid part is in small quantity, where food containing little fibrine, as sugar, has been taken; and the opaque white oily coat which swims upon the surface is scarcely perceptible when an animal has lived upon aliments deprived of fatty matter. The absorption of chyle by the lacteals continues a long time after death.

> "After having emptied, by compression, one or more of the chyliferous vessels of an animal recently dead, it gradually becomes filled again with the same kind of fluid; and this observation may be witnessed several times in succession. I have sometimes noticed it two hours after the death of the animal."—p. 163.

Capillary attraction, a peculiar sensibility of the orifices of the chyliferous vessels, &c. which have been given as explanations of the absorption of lymph, are regarded by M. Majendie as so many modes of expressing our ignorance of the nature of this phenomenon. He has assured himself, by experiments on animals, that liquids which do not undergo digestion, as water and spirit, are not mixed with the chyle, nor absorbed with it; but that they take a different course to reach the circulating system. If a little alcohol and water be given to a dog, whilst he is digesting food, and chyle be procured half an hour afterwards, by opening the thoracic duct, this liquid will be found not to contain any alcohol; but the blood of the same animal will exhale a powerful odour of alcohol, and will yield an evident quantity of it by distillation. If the experiment be made with camphor, or any other odoriferous substance, the same result will be obtained.

M. Majendie applies the term lymph to the fluid which is found in the lymphatics and the thoracic duct, and describes it as being salt to the taste, having a smell strongly resembling semen, sometimes of a yellow colour, at others reddish, like madder, soon taking a solid form when separated from the body. The quantity of lymph in a single animal is inconsiderable. From a large dog he has not procured more than an ounce and a half. The author insists upon these details, in order to obtain accuracy in experiments, and to distinguish lymph from the fluids of serous and cellular surfaces, which are different in appearance and in chemical composition.

The uncertain foundation on which the present doctrines of absorption rest, is ably examined. John Hunter employed but five animals for making the experiments which have been constantly quoted with so much confidence*. M. Majendie has repeated these experiments without success, never having found the lacteals filled with milk, which had been injected into a confined portion of the intestine. Indeed, he doubts whether the lacteals have the power of absorbing any other fluid than chyle; and he seems to be firmly convinced that they are not the only agents of intestinal absorption:—1. decoction of rhubarb is detected in the urine half an hour after it has been taken into the stomach; but no traces of it are to be found in the lymph procured from the thoracic duct; 2. prussiate of potass is apparent in the urine a quarter of an hour after a solution of it has been taken into the stomach; but the lymph procured at the same time from the thoracic duct, gives no sign of the prussiate being present on the application of chemical tests: 3. alcohol, as we have just noticed, is found in the blood soon after it has been drank; but not in the chyle of the thoracic duct: 4. when the thoracic duct of a dog is tied, a decoction of *nux vomica*, injected into the stomach or rectum, kills as quickly as if the duct were left pervious.

"In a dog, which had taken food plentifully seven hours before, to make the chyliferous vessels very apparent, M. Delille and myself made the following experiment. Through an incision in the abdominal parietes, we drew out a considerable portion of the small intestine, to which we applied two ligatures. The lymphatics aris-

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* See Dr. Hunter's *Medical Commentaries*, 4to. p. 38.

> ing from this portion were white and very evident, being distended with chyle. To each of these lymphatics we then applied two ligatures, and divided the vessel between them. We took all possible means of ascertaining that the exposed portion of the intestine had no further communication with the rest of the body by lymphatic vessels. Five arteries and five veins were distributed to this portion of intestine; four of these arteries and as many veins were tied and cut through in the same manner as the lymphatics; afterwards the two extremities of this portion of intestine were cut through and separated entirely from the rest of the gut. We had thus a considerable portion of the small intestine which communicated with the rest of the body only by a single artery and vein of the mesentery. These two vessels were insulated for four fingers' breath, and we even took away the cellular coat, lest any lymphatics should remain concealed in it. We then injected into the cavity of this portion of intestine about two ounces of a decoction of *nux vomica,* and prevented the injected liquor from escaping by putting on a ligature. The intestine was enveloped in fine linen, and replaced in the abdomen. The effects of the poison were evident in six minutes, and every thing went on the same as if the portion of intestine had been in its natural state."—p. 185.

It is rather from analogy with the chyliferous vessels of the intestines than from positive facts, that we have admitted lymphatic absorption from mucous, serous, or synovial surfaces; or in cellular substance, the skin and the tissue of organs. John Hunter, after having injected coloured fluids into the peritoneal cavity, saw the lymphatics filled with it; but others, who have undertaken similar experiments, have seen in the lymphatics none of the coloured liquids, although these had been very quickly absorbed. M. Majendie says, that in an hundred and fifty instances, he and Dupuytren have submitted coloured fluids to absorption from serous surfaces, without having once been able to observe them in the lymphatic vessels. Wine and solutions of opium are quickly absorbed when introduced into serous cavities, and produce intoxication and drowsiness; and tying the thoracic duct does not at all diminish the rapidity with which these effects become manifest. Moreover, the arachnoid and the membranes of the aqueous and vitreous humour, the structure of which is analagous to that of serous membranes, and in which no lymphatic vessel has hitherto been perceived, are endued with the power of absorption. M. Majendie therefore thinks, that the absorbing power of the lymphatics, is far from being demonstrated. He thinks, that the lymph is a part of the blood which returns to the heart by the lymphatics instead of taking its course by the veins; an opinion which he deduces: 1. From the strong analogy between the lymph and the blood. 2. From the communication which anatomists have found to exist between the termination of arteries and the commencement of lymphatics. 3. From the facility with which colouring or saline substances are introduced into the latter. It is not, however, for the sake of giving us this idea, which is neither new nor ingenious, that the author has dwelt so long on absorption by the lymphatics; but to correct erroneous opinions, and convince us how little is known upon the subject.

In considering the course of venous blood, the author elucidates by many new arguments and experiments the question of absorption by the minute extremities of veins. These, as anatomists have shewn beyond a doubt, communicate with the arteries and lymphatic vessels; it may be inferred, that they have orifices which open upon the surfaces of membranes, cellular tissue, and even in the *parenchyma* of organs. If gases or fluids of any kind be put in contact with any part of the body, (the skin excepted,) they are taken up by the minute orifices of veins, and pass quickly to the lungs with the venous blood; all solid substances which are susceptible of being dissolved by the blood or the secreted fluids they meet with, are received in the same way, and transferred to the heart and lungs. To give an idea of this property, of the minute extremities of veins to absorb liquids and solids in contact with living surfaces, M. Majendie introduces a solution of camphor into any serous or mucous cavity of the body, or buries a small portion of solid camphor in the tissue of any organ, and the air emitted from the lungs soon obtains a powerful smell of camphor. Camphorated injections thrown up the rectum produce the same effect in five or six minutes in the human subject. Almost every odoriferous substance which does not combine with the blood, exerts the same influence in imparting its peculiar odour to the air in the lungs. The venous absorption, M. Majendie has ascertained, varies in different tissues; it is much more rapid in serous than in mucous membranes, much quicker in tissues abounding with vessels than in those which have little vascularity.

"The villous surfaces, formed partly by the venous orifices *(radicules)*, are the organs for absorbing all the liquids in the small intestine, except the chyle. It is easy to convince yourself of this, by introducing into this intestine substances of a powerful smell and taste, capable of being absorbed. From the commencement of their absorption until their completion of it, the properties of these substances may be recognized in the blood of the branches of the *vena portæ*, but are not to be distinguished in the lymph until a long time after the absorption has commenced. We shall shew hereafter, that they arrive at the thoracic duct, not by the way of absorption from the chyliferous vessels; but by the communications of arteries with lymphatics.

"A grain of bile thrust into the crural vein, generally kills the animal in a few minutes. The same thing happens from the introduction of a certain quantity of air into this vein. These substances, introduced in a similar manner into one of the branches of the vena portæ, will be followed by no evident inconvenience. On what depends such a difference in the result of these experiments?

"It may be, that the course of the veins proceeding from the digestive organs through the liver, was necessary in order to mix intimately with the blood the substances absorbed in the intestinal canal. Whether this effect be produced or not, it is no longer doubtful that medicines absorbed in the stomach and intestines must pass immediately through the liver, and that they must exert upon this organ an influence which appears to me to be highly deserving the attention of the physician."—p. 232.

The skin, we have just stated, makes the only exception to the general law, that the veins, in all parts of the body, absorb the substances in contact with them. This is owing to epidermis; and when this is removed, as by the application of a blister, absorption takes place in the skin, the same as from an ulcer or any other living surface. Friction, however, will accomplish what does not happen by simple contact; and mercury, alcohol, opium, &c. having passed through the pores of the epidermis by the use of friction, are readily absorbed into the system.

In justice to M. Majendie, who has advocated a doctrine so very contrary to general opinion, we quote at length the experiments which have appeared to him the most decisive; but much as we respect his character, and admire his zeal, we cannot, until his experiments shall have been verified by others, place more confidence in them than in those of John Hunter, against whom we should be glad to find him employing, on some occasions, more argument and less severity of language.

"Having previously given opium to a dog to mitigate the pain of a tedious experiment, M. Delille and myself separated one thigh of the animal from the body, with the exception of the crural artery and vein, which were left untouched so as to preserve, by means of these alone, a communication between the limb and the body. These two vessels were dissected with the greatest care, and insulated to some extent; their cellular coat even was removed for fear that lymphatic vessels might be concealed in it. Two grains of the most powerful poison (the upas tree) were then injected into the foot, and its effects were as quick and intense as if the limb had not been at all separated from the body, the animal being influenced by the poison in four, and dead before ten minutes.

"It may be contended that, notwithstanding all our precautions, the coats of the crural artery and vein still contained lymphatics, and that these vessels were sufficient for conveying the poison. To remove this difficulty, I repeated the above experiment on another dog, with this difference, and I introduced into the crural artery a small cylinder of a quill, to which I fixed the vessel by two ligatures; the artery was afterwards cut through circularly between the two ligatures; the crural vein was treated in the same manner. Thus there was no longer any communication between the thigh and the rest of the body, except by the arterial and venous blood, which were passing in contrary directions from one to the other: yet the poison, introduced into the foot, shewed its effects as usual in about four minutes.

"This experiment leaves no doubt of the poison having passed from the foot to the trunk through the crural vein. To render this phenomenon still more evident, you must compress this vien between the fingers, at the moment when the effects of the poison begin to shew themselves: shortly these effects cease; they appear again if the vein is left free, and again cease when it is compressed anew. Thus you may regulate the effects of the poison at pleasure."—p. 238, 239.

M. Majendie further urges, in favour of the absorbing powers of veins, that in many parts of the body, the eye, the brain, the placenta, &c. where no lymphatic vessels are met with, absorption goes on with as much activity as in other parts where they are abundant; that in animals without vertebræ, where no lymphatics can be observed, absorption is very manifest; that the thoracic duct is much too small to give passage to the great quantity of matter which is sometimes absorbed, particularly fluids, ten or twelve pints of which are sometimes taken and voided from the bladder in a few hours. Facts, arguments, experiments, therefore concur, in the opinion of M. Majendie, to support the doctrine of absorption by veins, and the whole of our knowledge may be reduced to the following general remarks:—1. it is certain that the lacteals absorb the chyle; 2. it is doubtful whether they absorb any other fluids; 3. it is proved that the veins absorb; 4. it is not demonstrated that the lymphatics are possessed of any such property.

Upon the mechanism of the respiratory organs, there is, perhaps, little room for novelty. Contrary to what has been taught by anatomists since the time of Haller, M. Majendie believes the first rib to be very moveable, and that each rib is less moveable to the seventh of the true ribs. The scaleni and the muscles of the neck attached to the sternum are consequently muscles of respiration: in the list of the respiratory muscles, the author also places another, to which the use of expanding the chest has not been attributed, the diaphragm, which, in consequence of its attachment to the sternum and the six inferior ribs, must, by its contraction, elevate the thorax more or less, in proportion to the resistance it meets with from the contents of the abdomen.

The author identifies the function of respiration with the change of venous into arterial blood. The latter has a temperature of more than two degrees of Fahrenheit above the former, with less specific gravity and capacity for heat, a smaller proportion of serum, a stronger odour, and a greater disposition to coagulate. The vapour exhaled from the lungs is not all furnished by the venous blood of the pulmonary artery, but is formed in a considerable degree at the expense of arterial blood, distributed to the mucous membrane of the bronchi In living animals the pulmonary exhalation can be increased at pleasure. Water of the temperature of the body may be injected into the veins of a dog, in such a considerable quantity as to produce a degree of plethora and distension of vessels that scarcely allows the animal to move; in a few instants respiration becomes greatly accelerated, and an abundance of fluid may be observed flowing from all points of the throat, the evident source of which is the increased transpiration from the lungs. Alcohol, æther, solutions of camphor, &c. injected into the peritoneal cavity, or elsewhere, are thrown off from the surface of the lungs in the same manner as the aqueous part of the blood. Even gases of different kinds, injected into the veins, have been found to pass off by expiration. The divison of the eighth pair of nerves in the neck, which has been a favourite experiment with physiologists, influences the larynx as well as the lungs. When it kills immediately, it is owing, M. Majendie believes, to the dilating muscles of the glottis, which are supplied by the recurrent nerve, being paralized, whilst the constricting muscles, which receive their nerves from the superior laryngeal, continue in action, and close more or less completely the glottis.

The heart is regarded as the chief, if not the sole, agent, by which the blood is propelled from the arteries into the veins, and the action of the capillary system of vessels on the movement of the blood towards the heart is to be considered as no more than a gratuitous supposition. Respecting the dilatation and contraction of arteries, M. Majendie believes that they are passive in both these cases, their dilatation and contraction being simply an effect of elasticity of their walls called into action by the blood which the heart is continually propelling into their cavities. From a writer, who confines himself for the most part to matters of demonstration, we did not expect the opinion, that arteries are dilated at every contraction of the ventricles of the heart, which is contrary to actual observation on living animals. An account of the different secretions follows that of the circulation of the blood. From the rapidity with which certain substances, taken into the stomach, are voided with the urine, Sir E. Home and others have suspected, that the circulation was not the only means of communication between the stomach and the bladder. Upon this subject, M. Majendie has offered a fair illustration. Prussiate of potass, whether injected into the veins or absorbed from the intestinal canal, or from a serous surface, is, in a short time, easily detected in the urine. If the quantity of the prussiate employed be considerable, it is also detected in the blood; if in small quantity, it cannot be recognized by any of the tests in present use. The same thing happens in mixing the prussiate with blood in a vessel. But the smallest quantity of this salt can be made evident in the urine, and therefore it is not extraordinary that experimentalists should not always have found in the blood, the substance which could be distinctly ascertained to be present in the urine. M. Majendie thinks, that all liquids, except the chyle, are absorbed by the veins of the intestines, pass through the vena portæ of the liver, and thence, from the minutest branches of the venæ cavæ hepaticæ, to the heart: that this is a much shorter route, for those fluids which are soon found in the kidneys, than the one more generally admitted, (the lymphatic vessels, mesentric glands, and thoracic duct,) is a point which many anatomists would probably contend with him.

Upon nutrition, our author avoids discussing the numerous hypotheses that have been offered, confining himself to such facts as give us some notion of this process, and to the history of experiments on animals with sugar, gum, &c. which have been sufficiently noticed in preceding numbers of our Journal. He has occupied very few pages with the subject of animal heat. The most evident, if not the principal source of animal heat, appears to be respiration; the blood acquiring an increase of temperature of more than two degrees (Fahrenheit), in its conversion from venous into arterial, which it afterwards parts with to every part of the body, to which blood is distributed.

M. Majendie has next taken a concise view of Generation. Much of the information which he has given us upon this difficult subject, is of the negative kind; shewing us what is not, rather than what is, ascertained. As in fishes, reptiles, and birds, the semen comes in contact with the ova to produce fecundation, we may conclude, that Nature does not employ a very different method in mamiferous animals. We may therefore consider it probable, that the semen arrives sooner or later at the ovary. Some have supposed, that the semen is absorbed from the surface of the vagina, and carried to the ovary by the circulation. Were this idea well founded, a female might be impregnated, our author observes, by the injection of semen into the veins, an experiment which still remains to be tried by the physiologist. The period at which the ovum or vesicle passes from the ovarium through the fallopian tube, varies in different species. In rabbits, this appears to happen on the third or fourth day; in dogs, on the fifth or eighth. In women, it probably happens still later, perhaps not before the twelfth.

M. Majendie has made many new researches upon the physiology of the fœtus, particularly upon the connection which the fœtal circulation has with the mother. Into the vessels of the uterus of a living animal, he has injected odoriferous and even poisonous solutions, without ever finding reason for suspecting any direct communication between the uterus and placenta.

> "Towards the middle of gestation, we perceive in the bitch a great number of small arteries; which, proceeding from the substance of the uterus, dip into the placenta, where they divide themselves into many branches. At this period it is impossible to separate these two organs without tearing these arteries and producing considerable hæmorrhage; but at the end of gestation, on pulling the uterus ever so gently, these small vessels become separated from the placenta without any discharge of blood taking place.
>
> "When a certain quantity of camphor is injected into the veins of a bitch, its odour is strongly imparted to the blood. After having made an injection into the viens of a pregnant animal, I have extracted one fœtus from the uterus, and perceived, at the end of three or four minutes, no odour of camphor in its blood; but the blood of a second fœtus, extracted after a quarter of an hour, had a strong odour of camphor. It was the same with the remaining fœtuses in the uterus of this animal.
>
> "Thus notwithstanding there is no direct anastomosis between the vessels of the uterus and the placenta, it is impossible to doubt that the blood of the mother, or some of its elements, pass readily to the fœtus; probably it is deposited by the uterine vessels on the surface, or in the substance of the placenta, and absorbed by the origins of the umbilical vein."—p. 444.

It is much more difficult to ascertain, whether the blood of the fœtus returns to the mother. M. Majendie has thrown most active poisons into the vessels of the umbilical cord, directing them towards the placenta, without ever having seen the mother experience any effects from them; and when the mother dies of hæmorrhage, he finds the vessels of the fœtus remaining full of blood. To ascertain whether venous absorption exists in the fœtus in utero, this author has injected the most poisonous substances into the pleura, peritoneum, and cellular tissue; but without obtaining any satisfactory result, "for the nervous system of the fœtus which has not respired, does not," he says, "appear sensible to the action of poisons."

The favourable opinion which we ventured to express upon the first part of M. Majendie's physiology, we might repeat in still stronger terms, in concluding our analysis of the volume before us. In this, as in every other branch of science, a candid and judicious writer finds much to be undone as well as done; and no inconsiderable part of M. Majendie's time has been necessarily occupied in correcting errors, denouncing theories, and bringing us back to a conviction of our own ignorance, by pointing out the obscurity that reigns over all the phenomena of life to which we cannot apply the laws of physics, chemistry, or mechanics. Many will feel dissatisfied, that the author should not have found more which he thought worthy of being communicated, and that he should have been able to reduce the whole stock of our valuable knowledge in physiology into so small a compass. For perspicuity, conciseness, and originality, the work must stand conspicuous; and no compendium of physiology has, within our observation, made its appearance, that seemed better calculated to convey sound information, to stimulate active inquiry, and to point out the best means of improving the noblest and most useful of sciences.

II.

The Hospital Pupil, or Observations addressed to the Parents of Youths intended for the Profession of Medicine or Surgery, on their previous Education, Pecuniary Resources, and on the Order of their Professional Studies; with Hints to the Young Pupil on the Prosecution of Hospital Studies, on entering into Practice, and on Medical Jurisprudence. By JAMES PARKINSON, Member of the Royal College of Surgeons. Second Edition. 12mo. pp. 208. London, 1817. Sherwood and Co.

THE copious title page is sufficiently expressive; but to judge of the merits of this little work, it should be carefully perused and considered. It is not always that we notice new editions of books; for they rarely contain any additional matter worthy of attention. In the present instance, however, we are induced to swerve from our usual course: firstly, because the former edition was antecedent to the commencement of our labours: secondly, because the work is of great utility, and cannot be too widely known: and, thirdly, because, at a period when our efforts have been so pointedly directed towards every means calculated to promote and improve the course of medical education, Mr. Parkinson's Hospital Pupil opportunely appears in aid of our observations and precepts.

The author's sentiments so entirely coincide with our own, and his advice is so evidently the result of experience, that we cannot adopt a better mode of conveying those sentiments which we shall never omit a fair occasion for repeating, than by extracting such passages as best illustrate the subjects upon which he treats, and about which we ourselves are so solicitous.

Advice upon the ordinary affairs of life is never more effectually imparted than in a familiar manner: it comes home to the head and the heart; and leaves impressions not likely soon to be eradicated, where sense and feeling exist. Such a form our author, therefore, has chosen; and, in three letters, makes such very judicious comments, and directs such a system of education, that, if perused by parents before they devote their children to the profession of medicine, or if regarded only with ordinary attention by those youths who have selected it as their future pursuit in life, it cannot fail to have the most important influence on the decisions of the one, and the success and happiness of the other. Association with medical men of whatever class, soon affords numerous and striking examples of the physical defects of many of them—defects which no moral instruction could ever have corrected; and which exhibit the misguided judgemnt of those by whom they were destined to a profession, requiring superior qualities and talents. The origin of this species of delusion is thus correctly traced by our author:

" When you reflect on the vast importance of the science of medicine to mankind, and on the mischiefs which may ensue from the errors of an ignorant practitioner, you cannot be disposed to place your son in the profession, unless you are confident he is equal to the arduous duty. You will, I trust, not think of placing him in a situation so loaded with most serious responsibility, unless you are satisfied, that his mental abilities are such as give a fair prospect of his obtaining those acquirements, by which he may be enabled to practice the art of healing, to the greatest extent of advantage, which the state of medical and chirurgical science will admit.

" Consider, that if he does not manifest abilities, at least equal to other young people, the probability is, that his future attainments may be exceedingly insignificant. Should you, in that case, from overweening fondness and partiality, or from want of consideration, choose for him a profession, the object of which is the restoration of health to mankind, know that, by his inability duly to execute its functions, he must become the cruel scourge of those who may unhappily place in him their confidence, and intrust him with the preservation of their dearest interests."—p. 6.

" We will suppose for a moment that a regard for the welfare of others is not sufficient to prevent a parent from thus disposing of a son, possessing but ordinary, or less than ordinary abilities. Let him then reflect on the miserable course of life he has destined his son to pursue. He strives, perhaps, with unremitting ardour, to benefit those who call on him for aid; but, from frequency of failure, he at last takes alarm, revises what is past, and judges it by the knowledge which daily experience brings him. His mind is perpetually stung by self-accusation; he perceives that, in spite of his utmost exertions, those calamities increase which it is his duty, and his most anxious wish, to diminish; and, with pain he discovers, that his endeavours are too frequently, not only unsuccessful, but even injurious. Can it be a matter of surprise then that he often finds himself agitated with most distressful doubts as to the mode of conduct to be adopted, when a valuable life is at stake; and that he loads himself with reproaches for having, perhaps, augmented through ignorance, those calamities which a man of more information might have entirely removed. Such must frequently be his tormenting reflections; but, as he dwells on the melancholy theme, he most probably will discover, that the parent, who, to gratify a silly pride, placed before him the unequal task, in justice, merits the largest portion of reproach."—p. 9.

How often do we see the truth of the following remarks exemplified?

"Among the errors committed in the choice of an establishment for a youth, none is, perhaps, fraught with more mischief to the object whose benefit is thereby proposed, than when a youth of but small pecuniary resources and but ordinary intellect is disposed of as an apprentice to an apothecary, under the notion of obtaining for him a comfortable and genteel situation through life by a trifling premium.

"Miserable indeed is often the consequence of this miscalculation. The young man having compleated his apprenticeship, finds it necessary to enter upon almost a new course of studies; to pursue which, with a hope of success, demands pecuniary aid greater than he can obtain. In consequence he is obliged to give this undertaking up entirely, or attempt it under circumstances so narrow and stinted, as to find at the termination of his attempt, that he has been obliged to leave so much unlearnt as renders his entering upon his professional career presumptuous and unwarrantable.

"But should extraordinary perseverance overcome these difficulties, and he be enabled to place himself in a situation promising of success, his calls for pecuniary help are by no means concluded. It too often happens that from too youthful an appearance, or some other unfortunately opposing circumstances, not only months, but years, are lost before any competent return commences for his laborious and intense exertions, in acquiring the ability of fulfilling the important trust which is involved in the duties of his profession.

"Besides these there is another circumstance which claims the parents consideration—there is hardly any situation in which the necessity of keeping up, what is termed a genteel appearance, is more demanded. If whilst thus waiting for a fair reward of his labours, the least appearance of shift and poverty is discoverable, from that moment, it will be only from the influence of some fortunate occurrence that he can be saved from a distressing failure. When he will painfully lament that the misguiding pride of a parent had placed his hopes on a slight and unstable foundation."—p. 29.

These observations apply more directly to young men intended for general practice; but *mutatis mutandis* they are equally applicable to those educating to practise as physicians. With another remark also of our excellent author, we perfectly agree. A youth, possessing ample pecuniary resources, and a proper degree of application, often loses all the expected advantages, from the want of a mentor to advise and guide him in the course of studies which he ought to pursue; hence, after years of desultory attention, having completed his education, he still feels conscious of insufficiency; and, from ignorance of the real cause, accuses himself of incapacity for the duty which he has undertaken: hence disgust and diffidence in practice; and hence disappointment is an inevitable consequence.

As Mr. Parkinson's observations are principally intended for those destined to practise the three branches of the profession, he, very naturally, and, in our opinion, very truly exposes the errors of the system of education usually hitherto adopted. The binding of youths to the drudgery of an apothecary's shop for a term of *seven* years, is certainly a mechanic usage, and has, too often, injurious effects upon their characters and future pursuits. In fact, the effects of such a protracted bondage are indelible. The business of the counter supersedes all other considerations; or habits of idleness are contracted; and whatever classical attainments may have been acquired, are forgotten. Young men thus initiated, rarely become proficients or ornaments to the profession.

Having exposed the faults of the inceptive system of education, the author next, with much modesty, proceeds to detail that course which he would recommend.

After prescribing a very judicious course of studies, Mr. Parkinson thus concludes his first letter:

> " But the grand point on which I must draw your attention is, that a young man who has served an apprenticeship to an apothecary and surgeon, will require that which his friends will be seldom disposed to allow him—three seasons of lectures; and, at least, half as long attendance on an hospital, before he can be duly qualified. This must, of necessity, bring him to the age of four-and-twenty, when his attainments, in all probability, would not exceed those of a youth at nineteen, whose education had been arranged in the mode I described.
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> " But although I have thus endeavoured to shew you, that the necessary professional acquirements may be thus attained with more facility and certainty, than by confining a youth behind a counter during the term of an apprenticeship, I by no means intend to imply that his attendance there is unnecessary. On the contrary, I should recommend earnestly a twelvemonth's attendance at least in the shop of an apothecary, and even a close attention to the details of the counter.
>
> " In such a situation he will have the opportunity of exercising

> and confirming the knowledge he has gained. He will become more acquainted with the different articles of the *materia medica,* and with the results of their different combinations; and he will almost hourly meet with and experience the confirmation of some precept, or the exemplification of some rule of professional practice.
>
> "Thus, with no more expence, four or five years advance in knowledge would be obtained; the advantage of which, through life, must be immeasurable."—p. 73.

The second letter is supposed to be addressed to the youth, for whose sake he gave to the parent such excellent advice; but whose son, notwithstanding, had, according to the ordinary course, served a long apprenticeship, which being now expired, he is in London to *walk* the hospitals for a year.

Our author here enters fully into the new situation in which a youth is thrown; displays with friendly zeal the temptations to which he will be exposed, and the facility with which the best intentions are warped, by the association and example of idle and dissipated companions; and the inevitable mischiefs resulting from the procrastination of those duties and studies to which he ought immediately, and without ceasing, to devote himself.

After expatiating on the great importance of anatomy, justly appreciating it as the key-stone of medical knowledge, whereby the student becomes acquainted with "the form and situation of the various organic parts of the system," and pointing out the value of physiology, Mr. Parkinson observes, that—

> "before you attend to medical, surgical, and clinical lectures, assure yourself that the easiest part of medicine and surgery, is to remove curable diseases; if their natures are but known: and, that the most difficult task is, to obtain that knowledge which nosology teaches, by which one disease is distinguished from another. A moment's consideration can hardly be wanting, it may be supposed, to discover this; and yet I am assured, that it is very common to see young men, comparatively inattentive, whilst the definition and pathognomonic symptoms of disease are being taught; and seeming to reserve themselves for the exercise of all their attention on the *Methodus Medendi.* But whoever practices with this species of knowledge only, has no right to expect satisfactory success. The practice of medicine, as taught by a lecture, is a collection of inferences, drawn from previous propositions; and cannot be fully understood, unless the mind has possessed itself of those propositions, and of the mode of reasoning, by which the inferences have been deduced. Previous to attempting to possess yourself of a mode of treating diseases, acquire, therefore, a knowledge of those *diagnostic symptoms,* which characterise each disease, and which mark the difference between those of similar appearances. Learn the nature of those morbid changes, which form the *proximate causes* of disease;

and inform yourself respecting the various circumstances, which become the *remote* or *occasional causes*.

"If, without this previous knowledge, you form to yourself a system of medical practice, this practice, though founded on the precepts delivered from a professor's chair, will, justly speaking, be only a system of quackery. You will only acquire a set of rules, applicable to a certain set of cases, of ordinary occurrence; whereas the man of science derives, from his well-conducted studies, certain established principles, which serve for the foundation of rational and salutary, general practice; and which will also assist him, when employing analogy and comparison, to discover the nature of such cases as are marked by uncommon appearances. You will, doubtless, perceive, that every thing which I have now said, respecting the necessity of obtaining a just knowledge of the nature of disease, in the practice of medicine, must be equally applicable in the practice of surgery."—p. 107.

He next adverts to the danger of being seduced by the eclât attending operative surgery; the utility of clinical instruction; of chemistry and natural philosophy; and of other sciences essential to an accomplished practitioner. What a store of knowledge would be accumulated, if medical students would keep in remembrance and adopt our author's hints!

"Permit me, here, to suggest one hint or two. Never read but with your pen in your hand, and your common-place book beside you, in which you will enter such passages as strike your mind by their novelty and importance. Besides this, you will do well to strive, to make your extracts from the more interesting and valuable books, in the form of a regular analysis: thus you will, not only secure the individual passages which excite your notice, but, by placing them in the order of arrangement in which you find them, you will have them stored in your memory in that order which will best serve for their future recollection; and, at the same time, furnish your mind with a correct impression of the work, as a whole.

"Let, at least, one of the books you select for reading be in one of the dead languages, so that the knowledge you have obtained of the Greek or Latin may be augmented rather than be suffered to be lost. The same advice applies, with equal force, to any other language you may have acquired; and, indeed, when I consider the numerous scientific works which are written in the French and German tongue, I am obliged to urge you, to endeavour to number the knowledge of these languages among your accomplishments." —p. 126.

The third letter commences with the supposition, that his studies being completed, the next object of his young friends' attention, is the professional line he shall pursue.

This part, also, contains some very important remarks, peculiarly adapted for the consideration of young medical men just commencing their career in the world; for they are the offspring of actual experience, and the truth of them is within the scope of every one's observation. Indeed our author here points out with great force, the difficulties to which all young practitioners are commonly exposed when first settling in business. He concludes with some notice of that most abstruse and perhaps most neglected in these kingdoms of all departments of science, medical jurisprudence; offering such hints as must be useful in a very high degree to those who cannot be supposed to be sufficiently informed and cautious, and which may be read by all with equal pleasure and instruction.

The good sense and parental feeling that pervades the whole of this little work, is truly characteristic of the author; who is as well known in the superior paths of science, as by the many but humbler, though practical lucubrations, which his prolific pen has produced.

We know of no greater service that we can render to those parents and guardians who destine their children or wards for the medical profession; or to a student, either on the commencement or the conclusion of his studies, than the recommendation of Mr. Parkinson's *Hospital Pupil.*

III.

Remarks on Arsenic, considered as a Poison and a Medicine; to which are added Five Cases of Recovery from the Poisonous Effects of Arsenic: together with the Tests so successfully employed for detecting the White Metallic Oxide; in which those satisfactory Methods peculiar to Mr. Hume were principally adopted, confirmed, and compared with others formerly in Use. By John Marshall, Member of the Roy. Coll. of Surgeons in London, &c. 8vo. pp. 168. London, 1817. Callow.

The importance of forensic medicine is sufficient to direct our immediate attention to any work connected with it; and although the style of the title page of the volume before us could not lead us to anticipate extreme gratification from its perusal, yet we expected to be recompensed with some additional information on the subject; and from the experiments that the author had made, which we concluded must necessarily be numerous, we anticipated at least novelty of remark, both as to the effects of arsenic on the living frame, and the tests best adapted for detecting its presence in the dead animal stomach. Of the extent to which our hopes have been realized, the following analysis will, we trust, enable our readers to form a correct judgment.

Our author was the practitioner who attended the family of Mr. Turner, of Chancery Lane, which was attempted to be poisoned, two years ago, by a servant of the name of Eliza Fenning, whose life was for this crime justly forfeited to the injured laws of her country. As the public opinion was very much divided respecting the guilt of this misguided female, Mr. Marshall, immediately after her execution, published a brief account of the cases; which, we are informed in the preface to the present volume, was so well received by the profession, as to induce the author to publish the edition now under review, omitting the details of the conduct of the criminal, and retaining those "occurrences only which are more immediately connected with medical reasoning, and the history of the cases." The contents of the volume are divided into twelve articles, each of which we shall examine in the order of its arrangement.

The first article contains a detailed description of the symptoms and medical treatment of the five cases of poisoning, as they occurred in the family of Mr. Turner. The following were the general symptoms as experienced by all the patients: burning pain in the stomach, which was felt more or less through the whole course of the œsophagus; vomiting; the matter ejected in two of the cases being of a peculiar green and yellow colour; great thirst; tension of the abdomen, accompanied, in some of the patients, with contractions and knotting of the muscles; griping pains and purging; the respiration in one case was extremely hurried, and accompanied with palpitation of the heart: the pulse in all was quick, ranging from 120 to 126; but in two of the patients, when they were first visited, it was too small and weak to be felt at the wrist. Headache was a prevailing symptom; with flushings, and some degree of swelling of the face, and intolerance of light. Two of the sufferers were attacked with vertigo and epilepsy: and in Mr. Gadsden, the apprentice of Mr. Turner, the epileptic fits came on regularly every evening for a fortnight; then left him altogether for a week; but recurred, and have continued "up to the present time." The same patient also experienced a peculiar trembling of the right arm and leg; and Mr. R. Turner complained, for nearly six weeks, of a sense of numbness, pricking, and great weight of both the upper and lower extremities; which, however, immediately subsided in the arms on raising them "in an upright position." Such were the symptoms. A summary of them, which ought properly to have followed this article, is given in the eighth article: but the arrangement of our author is altogether without method. The summary, in addition to the symptoms we have enumerated, states that in three of the patients, "for many weeks afterwards, in attempting to reach an object by extending either arm," the fore-arm suddenly contracted, "causing them frequently to miss their aim." Mr. Turner, senior, felt also for some time "daily attacks of a burning sensation in one or both feet;" and all the patients "lost the entire cuticle of their tongues a short time after they had been poisoned." The sensation of itching mentioned by Orfila, and noticed also by Dr. Roget, was not present in any of our author's patients, although the cuticle peeled off "in furfuraceous scales." One of the most remarkable symptoms, the green colour of the fæces, is but slightly noticed in this summary, although it is dilated upon in the third article, where it is introduced, pell-mell, amongst the natural and artificial causes of recovery.

The treatment, the detail of which is given in the first article, and repeated in the seventh, in despite of all method, before the summary of the symptoms, was as follows. The stomach of each patient was cleared by means of copious draughts of warm water, sweetened with sugar, and "occasionally mixed with milk:" castor oil was then freely administered, and the purging afterwards kept up by a solution of sulphate of magnesia with manna in mint water.

"A dose of this purgative mixture," says our author, "was alternated, every four hours, with a supersaturated saline draught, *in actu effervescentiæ*, allowing the alkali to predominate four grains to each dose, with the intention of neutralizing any probable remains of the white oxide, by forming an arsenite of potash, and relieving the disposition to vomit."—p. 103.

We would remark upon this passage, that nothing could be more injudicious than the allowing the alkali to predominate; for if any particles of the arsenious acid remained in the stomach, they would be rendered more soluble by the alkali, and the sphere of their action increased; and, with regard to the idea of neutralizing the white oxide, our author ought to have informed himself that arsenite of potash is not less powerful as a poison than the arsenious acid. Among the fluids, also, that were freely allowed, we observe soda water, which is liable to the same objection as the excess of carbonate of potash in the saline draughts.

The patients were permitted to drink freely of milk and mutton broth, carefully avoiding to overcharge the stomach, in order to prevent the recurrence of vomiting; while beer, wine, and other fermented liquors, with animal food, were judiciously interdicted. The camphor mixture was given to allay the nervous symptoms; and it was found to be so serviceable, that we are told the patients "frequently took it with a degree of eagerness." Our author strongly reprobates the use of emetics, and properly directs the stomach to be evacuated by distending it with warm fluids, "in which magnesia, sugar, honey, treacle, milk, or any mucilaginous fluids, have been mixed or dissolved, at discretion;" while the action of these diluents in exciting vomiting is directed to be aided "by tickling the *fauces*, either with a feather or the finger." This mode of evacuating the stomach is, however, supposed to be necessary only if spontaneous vomiting does not occur: but, in our opinion, the vomiting ought, at all events, to be urged by the irritation of the fauces; for, if the assistance of the practitioner be demanded early enough, vomiting is the only method of getting rid of the arsenic; and, unless inflammation be already excited, no harm can result from urging, much beyond what would spontaneously occur, the inverted action of that viscus. Instead of the magnesia which our author recommends, we would be disposed to employ lime water, the arsenite of lime being more insoluble and inert than arsenite of magnesia, and more readily formed in the stomach, owing to the lime being in a state of solution.

The second article of the volume contains "Reflections on the Natural and Artificial Causes which necessarily contributed to the Recovery of Patients, with Practical Observations; and some Remarks on the Treatment of Epilepsy." The recovery of the patients, whose cases are detailed by Mr. Marshall, are here ascribed chiefly to the "speedy and spontaneous operation of the arsenic, both as a powerful emetic and purgative;" although in the seventh article we are informed, that the successful issue of the cases was, "in a great measure, to be ascribed to the prompt and judicious exhibition of the diluents, so as fully to evacuate the stomach, employed by the late Mr. Ogilvy;" which we think very probable; for we doubt whether the spontaneous vomiting and purging would, in any instance, be sufficient to evacuate the whole of the poison. Were such the case, arsenic might justly be regarded as its own antidote. With more probability, some part of the successful issue is ascribed to the nature of the vehicle, the yeast dumplings, in which the arsenic was administered; for the first action of vomiting must necessarily have dislodged from the stomach many grains of the poison that never came in contact with its villous coat, but remained involved in portions of the undigested dough; which, in this instance, was fortunately very heavy and ill-baked. Mr. Marshall states his preference of the use of purgatives to that of the lancet, even when the inflammation of the stomach has positively supervened, owing to their debilitating effects being less than that of bleeding; but, as the latter remedy was not tried in the instances under review, it is not improbable, that the convalescence of all the patients might have been much shortened, had bleeding been resorted to after the stomach and bowels were freely evacuated; and more particularly that of Mr. Turner's apprentice, Mr. Gadsden, who, although he ate a very small portion only of the dumplings; suffered more severely than any of the others. He had previously dined on a beef-steak pie, and his greater sufferings are ascribed to the charged state of the stomach, preventing the vomiting from occurring for an hour after the poison had been swallowed; and the minuteness of the quantity not allowing it to exert fully its emetic and purgative action. This young man, however, vomited "almost without intermission" during the whole time occupied in passing in a coach from Vauxhall to Chancery Lane; and as he was afterwards treated with diluents and purgatives in the same manner as the other patients, we may reasonably suppose the violence of the symptoms, as they occurred in him, must be attributed to some other cause. Something may have depended on peculiarity of habit, and something on the nature of his dinner, particularly if the pie was fat; for in the experiments of Fourcroy and of Renault, animals to whom the white oxide of arsenic mixed with butter or fat, was administered, died much sooner than those to whom it was given in combination with any other substance.

We cannot avoid here again remarking the singular confusion of Mr. Marshall's arrangement; the greater part of this article, notwithstanding its title, being taken up with the detail of symptoms, instead of that of the causes of recovery. The remarks on the treatment of epilepsy, merely shew, that the author's experience has not led him to place any confidence in the use of the lancet; and that Dr. Plenderleath has informed him he has found the oil of turpentine, "in doses of thirty drops, *ter quotidie*, rubbed down with mucilage and mint water," succeed in many instances in speedily reducing the fit from twice a day to once a day, and in effectually curing the disease in two or three days. We have not, lately, had any communications on the effects of this remedy in the hands of other practitioners; but, from our own experience, we doubt its efficacy in idiopathic epilepsy; and imagine, as Mr. Marshall himself suggests, that "possibly some of the patients mentioned by Dr. Plenderleath have laboured under *tænia*," or other visceral irritation arising from worms.

The third article is intitled "Arsenic considered as a medicine; together with the relation of some extraordinary and novel effects produced by its administration in the medicinal form of Dr. Fowler's solution." In this section our author mentions the case of the son of a nobleman who "has been severely afflicted with epileptic fits," in consequence of the too long continued use of Fowler's arsenical solution, which was prescribed for an intermittent disease: and notices two other cases, on the authority of Dr. Johnson of Weymouth, in which paralysis of both sets of the extremities supervened on giving the arsenical solution in the usual dose for ten days only. A detail of some trials of the arsenical solution in ague, by Mr. Gregg, Surgeon to the Second Royal Surry Regiment of Militia, is also brought forward to shew the deleterious effects of this remedy; but our readers will not be surprised that it excited nausea, pain of the head and stomach, dimness of sight, and anasarcous swellings, when we inform them that the dose was carried to the extent of sixteen drops three times a day. Such are the slender materials on which our author ventures to suggest, that the real advantages to be expected from the employment of arsenic as a remedy, are probably "scarcely sufficient to compensate for its injurious effects." Now it is unnecessary to point out to the profession, that the advantages or disadvantages to be expected from any remedy, depend much on the circumstances under which it is exhibited; but we would inform our author that the statement of the cases he has brought forward is so loose, that no correct inferences can be drawn from them; and although they may have the effect of prejudicing a general reader against the use of a valuable remedy, yet they are not likely to influence, in any degree, the mind, or the practice of [an intelligent and properly educated practitioner. The effects of the remedy in the three first cases evidently depended on idiosyncracy; and in the account of Mr. Gregg's experiments, we are neither told of the peculiar circumstances under which the remedy proved not only inefficacious, but prejudicial, nor are we informed whether the symptoms it is said to have occasioned were of a transitory nature, disappearing after the use of the arsenic was discontinued, or were permanent. We might indeed suspect the latter to have been the case, from the following specimen of our author's pathological reasoning.

> "It does not at present appear that two of these diseases" (epilepsy, paralysis, œdematous swellings, and dimness of sight) "excited by arsenic, are likely to assail the same subject, except œdematous swellings and dimness of sight, which, in all probability, are depending upon a general anasarcous affection operating upon the system, which, though sufficiently evident upon the extremities, may also be accompanied with *hydrocephalus internus*, and, by pressure upon the optic nerves, cause the dimness of sight, a symptom usually attending that diseased action of the ventricles of the brain, but frequently amounting to total darkness."—p. 61.

To prevent the deleterious effects of arsenic, when employed as a remedy, Mr. Marshall proposes

> "to administer it in the usual doses for seven or eight days; then to allow an interval of four or five ere it is resumed; and during the cessation of the arsenical solution, if, for example's sake, the disease under cure be an intermittent, after a purgative, let bark, or the *sulphas ferri*, with *infusum quassiæ*, be substituted: by such a method the risk of incurring mischief might possibly be obviated."—p. 62.

And we may add, the chance, also, of curing the disease reduced almost to a shadow. But it is unnecessary for us to combat the author's groundless alarms, the fourth article of the volume being a complete answer to the third, and ending with the following sentence, a due consideration of which by our author might have saved him the trouble of composing at least one section of his work.

> "That essential benefit," he remarks, "is derivable from arsenic in a variety of diseases incidental to the human frame, is beyond all doubt; and while its application is restrained within bounds, I am satisfied no adverse symptoms will arise, or hazard the patient to the severe attacks it is capable of exhibiting."

Bergman's opinion regarding the solubility of white oxide of arsenic, which has been copied by the majority of chemical writers without examination, is adopted also by our author; who states that one part is soluble in fifteen parts of boiling water, and in eighty of cold water. Klaproth's experiments, however, have shewn the inaccuracy of this opinion; one part of the white oxide requiring four hundred parts of water at 59° Fah. for its solution; although one hundred parts of water, which has been boiled on white oxide of arsenic and cooled down to 59°, retain three grains of the oxide in solution*. This fact is of importance, as it displays the necessity of employing boiling water in examining the vomited matters and the contents of the stomach, in cases of poisoning by arsenic.

As coinciding with his own practice in administering the arsenical solution, our author quotes the practice of Dr. Brown, "*an able and experienced practitioner*," who, we are informed, in prescribing the solution, has uniformly "commenced with three drops, and restricted the dose to five, twice a day;" that is, to $\frac{1}{24}$ of a grain of the oxide for a dose; and yet, two pages further on, we are informed that one of the Doctor's patients took $\frac{1}{16}$ of a grain twice a day for seven months, with impunity. The following is said to be an *exact copy of* the recipe; although, for the credit of the Doctor's latinity, we should hope this is not strictly the case.

℞ Extracti humuli, ℥ss.
Pulvis opii, gr. ii.
Olei caryoph. gr. iij.
Arsenici oxidi sublimati, gr. i.
Pulvis zingiberis, q. s.—Misce ut fiant pilulæ x quarum sumatur unâ bis quotidie.

The fifth article is intended to recommend magnesia "as a remedy to counteract the deleterious effects of arsenic." The common carbonate of magnesia is said to be one of the best remedies "to restrain, if possible, the action of arsenic;" and, by forming an arsenite of magnesia, "may probably be found fully adequate to check the baneful tendency of its effects upon the human frame, as has been variously exemplified." Now we confess we are perfectly at a loss to comprehend the author's meaning; the words *if possible* and *probably* leaving the recommendation so indefinite, that the author does not commit himself; while, at the same time, the expression *variously exemplified* would lead one to suppose, that the good effects of magnesia as an antidote of arsenic had been really demonstrated. We are, however, ignorant of any such circumstance; and the opinion of Mr. Hume, who, our author informs us, "prefers it to any other of the earths, or even to the fixed alkalies," has no influence with us, as he does not shew us that that opinion has been formed on sufficient and tenable grounds. Even the recommendation, or rather suggestion, of Dr. Thomas Percival, quoted by Mr. Marshall, however highly we respect the memory of Dr. Percival, goes for nought on this occasion; for we do not admit that *calcined* magnesia decomposes the white oxide of arsenic, with which it on the contrary combines; and forms a soluble arsenite of magnesia, which, our author has asserted, acts feebly "on the human frame;" but without advancing a single proof in support of his assertion. The opinion in favour of lime water is given on the authority of Orfila, who, unlike our author and Mr. Hume, did not advance it, until he had proved by experiment that the arsenite of lime, formed by pouring lime water into a solution of white oxide of arsenic, is insoluble, and, when swallowed, is not poisonous. Indeed, this opinion might, a priori, have been ventured; for it may be regarded almost as a general law, that substances of equal powers, as poisons, exert their influence with more effect, the more readily they are dissolved in the stomach. We cannot avoid remarking here, that no part of the volume shews the careless manner in which the author has received the statements he has advanced, more conspicuously, than a note in the page now open before us, which states that the insolubility of arsenite of lime, as mentioned by Orfila,

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* *Repository,* vol. ii. p. 250; and *Schweigger's Journal,* vol. vi. 232.

> "is contrary to Mr. Hume's experiments; for he has proved that *lime* will form a *soluble* salt, and may be employed in place of any alkali to detect arsenic."—p. 79.

This is more inexcusable, as he had only to pour some lime water into a solution of arsenic, to obtain the insoluble arsenite of lime, which is thrown down in the form of a white flocculent precipitate. It is true, indeed, that no precipitate falls when a small quantity only of lime water is employed, the sub-arsenite of lime being soluble; but by continuing to add it, the mixture soon becomes milky, and the insoluble neutral arsenite is formed.

With the view of determining the comparative solubility of the arsenites of lime and of magnesia, we prepared these salts, by boiling together for half an hour four grains of quick-lime and two grains of white oxide of arsenic in one ounce of water; and, in another vessel, the same proportions of magnesia, white oxide of arsenic, and water; and filtered the solutions. The fluid in which the lime and arsenic were boiled, when tested with ammoniaco nitrate of silver and ammoniaco sulphate of copper, displayed no appearance which could indicate the presence of arsenic, the precipitates thrown down being the same as those produced in lime water by these tests; while in the fluid in which the magnesia and arsenic were boiled, an instantaneous and copious bright yellow precipitate was formed by the nitrate, and a bright green by the sulphate. Reasoning on these results, and drawing an analogical deduction from the effects of the arsenites of the alkalies, we were led to infer that arsenite of magnesia, being very soluble, is nearly as poisonous as arsenic itself; while the little solubility or complete insolubility of arsenite of lime might render it much less active, if not altogether inert. But as the determination of this point was an object of some practical utility, we made the following experiments, with the view of filling up Mr. Marshall's deficiencies, and satisfying our own minds.

Experiment 1. A scruple of white oxide of arsenic and a drachm of prepared chalk were rubbed together with a small quantity of mucilage and about an ounce of water, and introduced into the stomach of a strong male cat. He did not seem to suffer any inconvenience; and, apparently, would have survived, had not the same quantity of the white oxide, suspended in a little mucilage without any chalk, been introduced into his stomach about an hour and a half afterwards, which quickly displayed its effects and destroyed the animal.

Experiment 2. Three grains of white oxide of arsenic and and six of sub-carbonate of magnesia, rubbed together, with a little mucilage and about three drachms of water, were injected through a gum elastic tube into the stomach of a rabbit. The animal appeared almost instantaneously convulsed, and died in one minute afterwards. On opening the stomach, it appeared slightly inflamed only at and near the cardiac portion: the immediate cause of the suddenness of the death not being rendered evident by the dissection.

Experiment 3. The precipitate obtained by pouring lime water into a solution of three grains of arsenic, was collected; and, with about three drachms of the supernatant fluid injected into the stomach of a rabbit. The animal did not suffer the least inconvenience; nor was any alteration produced on injecting into the stomach of the same rabbit, an hour afterwards, a mixture of three grains of the white oxide, and nine grains of chalk, well rubbed together in three drachms of water with a little mucilage.

Experiment 4. A similar mixture of arsenic and magnesia, as employed in the second experiment, was, an hour after the injection of the chalk and arsenic, thrown into the stomach of the rabbit used in the third experiment. Little effect was apparent for some time; but in less than three quarters of an hour, it became violently convulsed, uttered several piercing cries, and died. On opening the stomach, it presented marks of high inflammation as far as the pyloric portion, where the redness suddenly terminated.

From these experiments we conceive we may justly infer, that instead of magnesia proving an antidote in cases of poisoning by arsenic, the arsenite of magnesia is, itself, a virulent poison; while chalk and lime water destroy the deleterious effects of an over-dose of a solution of the white oxide, if taken in time; and are likely even to suspend or lessen the action of the poison swallowed in a solid form, if aided by plentiful dilution. We are fully aware, that the effects of poisons on the stomachs of the lower animals, do not always correspond with those produced on that of man; but even were this admitted to effect the present case, these experiments at least fully demonstrate the activity of arsenite of magnesia on the stomach of the same kind of animal to be much greater than that of arsenite of lime. But to return to our author:

The sixth article treats of "a variety of analytical experiments upon arsenic," particularly with Mr. Hume's test. In the first sentence of this article we are informed, that the arsenic "was collected in so palpable a form in the yeast dumplings," that it became wholly unnecessary to analize the fluid ejected from the stomachs of these patients, (Mr. Turner's family). Now we must strongly protest against this method of supplying medical evidence. Whatever was the state of the dumplings and the "scrapings of the dish in which they were kneaded," the matters vomited by the patients ought to have been carefully tested, in order to substantiate the fact, that the symptoms were actually the effects of the presence of arsenic in the stomach. We do not mean to raise the slightest doubt of the propriety of Eliza Fenning's sentence; on the contrary, we believe that she justly paid the forfeit of her crime; but we would have medical men to reflect on the serious nature of their employment, in collecting the materials of evidence that must effect the life of an individual; and to consider, that by confidence in their skill and accuracy, the judge is directed in making his charge, and the jury influenced in forming their decision.

As the evidence of the presence of arsenic in the dumplings was unequivocally made out, we shall therefore offer a few observations on the mode only of conducting some of the experiments.

With regard to the silvery white appearance of the upper surface of the polished halfpenny, on which a portion of one of the dumplings was reduced to a cinder, which our author regards as a "satisfactory and positive proof," we would remark, that the suet and carbonaceous matter of the dumplings when thus treated, would whiten copper; and that it is as proper, as Dr. Bostock has advised*, to rub the copper after being used with fine sand, and then with soft chalk; when, if the silvery whiteness remain, the presence of arsenic as the cause may be correctly inferred. The same remark, however, does not apply to our author's experiment with the oxide alone heated between two polished plates of copper.

In an eulogy on Mr. Hume, our author thus expresses himself. "Whereas the ammoniaco nitrate of silver, and the ammoniaco sulphate of copper, the discoveries of Mr. Hume," &c. On this passage we must observe, that at least the first of these tests cannot *strictly* be said to be the discovery of Mr. Hume. To this chemist is certainly due the discovery of nitrate of silver as a test of arsenic in solution with potash; but the use of the ammoniaco-nitrate was undoubtedly first suggested by Dr. Marcet. The test of the ammoniaco-sulphate of copper is simply a modification of Scheele's test of sulphate of copper added to a mixed solution of white oxide of arsenic and potash. Although we have been induced from our experiments to prefer this test to the ammoniaco-nitrate of silver in examining vomited matters, or the actual contents of the stomach, for which we shall afterwards state our reasons, yet, it must be remarked, that it fails when the solution is too concentrated; a fact, not noticed by Mr. Marshall. These experiments, and heating the white oxide so as to obtain the alliaceous odour, were all that were tried; and they were amply sufficient, as more than half a tea-spoonful of the arsenic was obtained from the earthen pan in which the dumplings had been kneaded. The formulæ for preparing the *ammoniaco-nitrate of silver* and the *ammoniaco-sulphate of copper*, are added to this section of the volume; and we extract them for the benefit of some of our readers.

"*Ammoniaco Nitrate of Silver.*

"Dissolve a few grains, say ten, of the nitrate of silver, commonly called lunar caustic, in about nine or ten times its weight of distilled water; to this add, by a drop at a time, some liquid ammonia, till a precipitate is formed. Continue cautiously to add the ammonia, now and then shaking the bottle, till the precipitate shall be nearly taken up, and the solution again become transparent, or nearly so, as the ammonia need not be in great excess, if in any."—p. 99.

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* *Edinburgh Medical and Surgical Journal,* vol. v. p. 173.

"*Ammoniaco Sulphate of Copper.*

"Let a little liquid ammonia be dropt into a saturated solution of sulphate of copper, or common blue vitriol, until a precipitate be formed; then continue to add the ammonia by degrees, when presently the precipitate will be perfectly dissolved, and the solution will become of a rich elegant deep blue colour, and perfectly transparent."—p. 101.

Our author gives several other tests, chiefly on the authority of Mr. Hume; but we confess we are unreasonable enough to think, that an exposition of all that have been proposed, with a practical examination of the relative value of each, should have been attempted. In addition to those mentioned by Orfila, who is more complete than any other writer on this subject, we may notice, that we have tried Brugnatelli's azure tincture* but it has altogether failed in our hands; and the method of using lunar caustic, proposed by Dr. Paris†, appears to us to involve too much ambiguity to obtain general confidence. There is no occasion, however, for increasing the catalogue of tests for detecting the presence of the white oxide of arsenic, when it has not been taken into the stomach; but, when this has been the case, the most delicate tests often afford us no assistance, or, at best, offer but dubious results. With the view of ascertaining which of the more approved tests, now in use, is to be preferred, we made the following experiments:

Experiment 1. A bull-dog puppy, six weeks old, was killed by injecting into its stomach, through a flexible tube introduced by the mouth, a mucilaginous mixture, containing about two scruples of white oxide of arsenic, in two different doses. The animal vomited soon after receiving the first dose; but the second was retained. The matter ejected by vomiting having been washed in hot water and filtered, the fluid, when tested, exhibited the following results:—with ammoniaco-sulphate of copper, a copious green precipitate was thrown down:—with ammoniaco-nitrate of silver, the precipitate was of a dubious character, being at first a very pale yellow colour, which was rapidly obscured by a dirty white that could not be altered by the means recommended by Dr. Marcet‡, for removing the muriate of silver, formed from the muriates frequently present in the stomach. With lime water, a copious white insoluble precipitate was produced. The stomach and its contents being washed in the same manner as the vomited matter, the filtered fluid became green on the addition of ammoniaco-sulphate of copper; but no precipitate fell until after some hours had elapsed, and even then it was scarcely perceptible; the ammoniaco-nitrate threw down merely a dirty white precipitate, which changed to a purplish black on standing exposed to the light: lime water occasioned a very scanty white precipitate.

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* *Giorn. di Fisica*, ix. p. 465; and *Repository*, vol. viii. p. 73.

† For an account of this method, see the section Intelligence of the present Number.

‡ *Medico-Chirurg. Trans.* vol. iii. p. 346.

Experiment 2. A strong male cat was killed by two drachms of white oxide of arsenic, exhibited in two separate doses, in the same manner as in the last experiment. He vomited twice before death. The filtered fluid, from the washings of the stomach, yielded a slight green dubious precipitate on the addition of the ammoniaco-sulphate; and, with the ammoniaco-nitrate, a dirty white, or chiefly muriate of silver; lime water produced no effect.

These experiments demonstate, in some degree, the extreme difficulty of detecting arsenic in the contents of the stomach after death; and the necessity of carefully testing the vomited matters. They also prove the ambiguity of the results produced by ammoniaco-nitrate of silver employed as a test, when muriates and animal juices are present. The ammoniaco-sulphate of copper is certainly the most delicate test of the three which we have tried; but we should scarcely be led to draw decisive conclusions in a case of poisoning, even when the green precipitate appears, unless we obtained the arsenic in a metallic form, by mixing the precipitate dried, with equal parts of carbonate of potash and charcoal, and a drop of oil, and subliming the paste in a small test tube, by the heat of a spirit lamp. Whatever be the methods adopted, the results should be compared with those obtained from solutions really known to contain arsenic.

We have already examined the seventh and eighth articles. The ninth details some trivial "experiments with arsenic upon human bile," which lead to no useful inferences; while the tenth and eleventh are intended to prove the *safety* and utility of using the white oxide of arsenic, combined with unctuous substances, in the form of an ointment, as an escharotic to open cancers; and the danger of applying it in solution, or in the form of a lotion, to abraded surfaces. For the sake of those who may wish to try our author's ointment, we subjoin an *exact* copy of his formula.

℞ Unguenti cetacei, ℥ j.
Arsenici oxidi albi,
Sulphuris loti, ana ℈ j.

Misce fiat unguentum, *pars affecta* pro re natâ applicandum.

The twelfth and last article contains a summary of the method to be pursued in examining a suspected case of poisoning by arsenic, "whether antecedent or posterior to dissolution." It is drawn up in the most careless manner, and clearly demonstrates that the author has made no experiments on animals to verify the utility of the methods he is desirous of recommending; for had he done so, he would have found, on examining the matter vomited, that the "fine yellow cloud," far from being produced as it is in a simple solution of arsenic, is often so much obscured by muriate of silver, as to be scarcely recognizable, even when arsenic is really present. No notice is taken of Dr. Marcet's method of removing this obstacle; and, indeed, our author does not appear to have been aware of its existence. In the event of not finding arsenic in the contents of the stomach, when examined *post mortem*, we are directed to boil a divided portion of it in rain or distilled water, and to submit the fluid, when filtered, to chemical examination. To this method we would suggest, as an objection, that the corrugation of the portion of the stomach by the boiling may envelope, so completely, in its substance the particles of the white oxide as to prevent the water from acting on them; an obstacle which is altogether removed by cutting the stomach into shreds and boiling it, as directed by Rose*, in conjunction with caustic potash, or, as we would suggest, in much diluted liquor potassæ; by which means the stomach is partly dissolved, and the arsenic, if any be present, combined and saturated with the alkali. The remainder of Rose's plan consists in boiling the filtered fluid, adding at intervals a little nitric acid, until it becomes of a bright yellow colour; then filtering again and saturating the acid with carbonate of lime. A small portion of the arsenite thus formed being precipitated by boiling water, to expel any remains of carbonic acid, and then washed and dried, is readily decomposed by heating it to redness, in conjunction with half its weight of borax, in a coated tube, and the arsenic is sublimed in its metallic state. The olive green appearance of the alvine contents, and the swollen state of the abdomen, which our author conceives "imply a strong presumptive inference or suspicion" that the death of the individual has been caused by the administration of arsenic, are likely to be produced by so many other causes, that, even when the suspicions are otherwise corroborated, these indications can scarcely be regarded as of any importance. The directions to inspect the mouth, tongue, and œsophagus, as far as the cardia, when no proofs of the presence of the poison are found in the stomach, are judicious and important.

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* Vide *Journal fur die Chemie und Physik herausgegeben von* Gehlen, vol. ii. s. 665.

The appendix contains an interesting experimental investigation of the effects of the two principal tests recommended by our author on decoctions of onions. He found that the ammoniaco nitrate of silver strikes a *yellow* colour, which gradually degenerates to a *dark red*, when it is added to a filtered decoction of onions; but no precipitate is produced; the mixture, on the contrary, remains perfectly transparent; the ammoniaco sulphate of copper in a similar manner produces a *grass green* colour, in the same vegetable decoction, but also without any precipitate. These characteristics are sufficiently distinctive in pointing out the difference of action of a decoction of onions and a solution of white oxide of arsenic on these tests. Our author was induced to make the experiments that afforded these results, in consequence of reading the contradictory medical evidence given on a trial for murder, at the Lent Assizes for 1817, held at Launceston, in Cornwall: and he afterwards repeated the experiments precisely "after the manner described in the medical evidence adduced at the trial;" but the results which he obtained had no similitude whatever to those that would have followed, from treating a solution of arsenic in the same manner. For these inquiries the thanks of the profession are certainly due to Mr. Marshall.—*O, si sic omnia!*

Our readers will have already collected our opinion of the contents of this volume. Were we disposed to give specimens which display the most flagrant neglect of the common rules of grammar and of composition, we should find ample matter in almost every page; but we do not wish to draw out farther the frailties of the work. We cannot however avoid remarking, as we have done on some former occasions, that although elegance of style be not an essential quality in medical writing, yet, the literary productions of the members of a profession, which is dignified with the title of *learned*, cannot be excused any direct outrages against grammatical construction. We sincerely lament the necessity of these animadversions; but to suffer such a work to pass uncensured would be productive of two serious evils. In the first place, it would afford an example of the most dangerous tendency to the student; and in the second place, would deservedly reflect discredit on the profession itself; which can maintain the high reputation it has acquired in this country, as long only as its members appear capable of forwarding its utility, and upholding its respectability and dignity by their erudition and science.

SELECTIONS postponed for want of room.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

ANATOMY, PHYSIOLOGY, PRACTICE OF MEDICINE, AND SURGERY.

I.—We are much pleased in being able to lay before our readers a renewal of Dr. Granville's communications, "*On the present State and Progress of Medicine in France.*" From the period at which the correspondence recommences, some circumstances necessarily fall under his observation which have already been noticed in the *Repository*.

LETTER IV.

"My short absence of two months from Paris has necessarily interrupted my correspondence. In my conversations with yourself*, and some of the leading medical characters, during my late visit in London, I have indeed followed up the progressive narrative, which it is the object of these letters to give you, respecting all that is doing in this country connected with the study and practice of medical science. But the kind of promise I have made to your readers of acquainting them with any important facts that may occur to me while I remain in Paris, with regard to the French practice of medicine, induces me again to take up my communications at the precise point where I left them.

"As a collection of well-authenticated cases, corroborating what has hitherto been advanced respecting the medical properties of the *nux vomica*, must be a desirable circumstance for the profession in general on your side of the water, I shall begin this letter by informing you that Professor Dumeril has had occasion to administer the remedy in question to a woman aged about 40, affected by a complete paralysis of the abdominal extremities; and in whom all sort of motion of the diseased parts had been found impracticable. The effects he has obtained from this medicine have been most satisfactory; and the patient is now able to get out of her bed without any assistance, and likewise to stand a short while on her legs without tottering. He is, at this moment, giving her five grains of the *alcoholic* extract; which seem to excite so much internal action, particularly by promoting a considerable sensation of heat in the spine, that the patient has requested the dose might not be increased further. It is well to observe that she had been trying every sort of medicines before with no effect. At the same time I must not conceal that a similar experiment, tried on the relative of an eminent chemist, my intimate friend, even for a long period, has completely failed in procuring him even the slightest relief.

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* These letters are addressed to one of the Editors.

" The history of the woman in whose stomach a polypous tumour was found after death, as I mentioned to you, is this: —She entered the Hotel Dieu last February, to be treated for a chronic diarrhœa, which had greatly reduced her, and which had lasted several years. Proper treatment was had recourse to; but with no advantageous result. The ejections became daily more numerous; the patient fell into a state of marasmus and complete adynamy; when at last she died, aged 64. On examining the body after death, a general inflammation of the intestines was observable, and ulcerations were found spread here and there on their surface. On laying open the stomach in the direction of its anterior and abdominal border, from the cardia to the pylorus, a tumour of an extraordinary nature presented itself to view. This tumour, implanted on the posterior border of the stomach, a short distance from the cardia, was cylindrical and six inches in length. Its diameter was various in different parts; above an inch at its origin, and three quarters where it assumed a tapering form towards the pylorus, into which opening it penetrated, and seemed completely to fill it, by which it had suffered a considerable and protracted constriction, from the action of the sphincter of that orifice, so as to leave a deep impression on the tumour at about two inches distance from its loose extremity. The tumour was wholly covered by a mucous membrane, being a prolongation of that which lines the stomach. The colour of this membrane was of a livid and even black tinge in some places, while it appeared of a grey-red in others. No difficulty was experienced in detaching it from the body of the tumour. The latter was evidently organised on its surface, where the most beautiful ramifications of large and small vessels were perceived. On dissection, however, the tumour was found to consist of a dense, red, fleshy substance, becoming livid, and even white at its base. It was ascertained that the woman had never had any particular complaint which could be ascribed to the presence of so considerable a foreign body in the stomach. Nor could any fact be brought to light by which any conjecture might be formed respecting the origin of this extraordinary vegetation.

" Who has not heard of the *malaria* of some parts of Italy and other marshy countries? The conjectures respecting the mode of action of the miasmata on the human body in such cases, have been as desultory as they have been numerous. Nor have the means proposed to avoid its bad effects, had a better success. Monsieur Delile now comes forward, and from numerous personal inquiries and actual observation, pretends to have ascertained, that what constitutes the *malaria*, is the constant and regular series of emanations from decomposing animal and vegetable substances, on which the powerful sun of the preceding summer had been acting. That these invisible atoms spread and mix in the air, with which they are drawn into the lungs, and penetrate into the cavities of the nose; and that the best method of preventing this, would be to sift the air to be breathed, which might be done by wearing a fine silk gauze to cover the nostrils and the mouth. The miasmata are heavier than the air, and are therefore always to be found in the lower strata. A very high place of residence in countries infested by *malaria*, would of course be a perfect security from its influence. The author had an opportunity of making some experiments near Rome and at the Pontine Marshes; he there found that an elevation of 300 yards was a complete security from infection. Watery vapours are, according to him, the true vehicle of the miasmata; hence the bad effects of dews, fogs, &c.; and the very curious circumstance that the middle of towns is often more salubrious than the suburbs. The pituitous membranes and the adjacent parts, are considered by M. Delile as the organs on which the miasmata first accumulate, till they have acquired sufficient power to infect the whole system.

" You must recollect the experiment by which Dr. Majendie endeavoured to shew, that the stomach in vomiting, is nearly passive, and that the diaphragm and abdominal muscles are the only agents in that phenomenon. In some of those experiments he even pushed the demonstration so far, as to substitute a bladder in place of the stomach, which had been removed in a dog; when, by exciting the action of the above-mentioned muscles, vomiting was produced, or the ejection of the coloured liquid contained in the bladder. Dr. Portal now comes forward with other experiments on his side, to prove that Dr. Majendie's general assertion was too hasty—that vomiting begins by a particular action of the stomach, as commonly supposed by physiologists in general, and is further continued by the action of the abdominal muscles and diaphragm; but, that in many cases, the latter are by no means necessary; as he states having ascertained, that vomiting may be produced in the stomach, where the abdominal parietes have been removed; a fact, which he had occasion to observe in an experiment made for that purpose.

"A very interesting paper, detailing some physiological experiments relative to the injection of medicated fluids into the trachea and lungs, written by a German Doctor, whose name I do not recollect, having fallen into the hands of Dr. Majendie, he determined to repeat them at one of the lectures which he has been giving to a small number of pupils, on a few physiological subjects illustrated by experiment. I was present on this occasion; and as the results are both interesting, and somewhat different from those said to have been obtained by the author, I shall briefly relate them to you.

"The first proposition of the author is this, that if a sharp-pointed body be introduced into the trachea, it will cause a much greater symptom of irritation when turned upwards, so as to stimulate the larynx, than when it is plunged in any of the bronchia.

"Experiment 1. A dog of middle size, strong, and lively, was submitted to the operation of tracheotomy; the anterior half of one of the rings was cut out, and a long probe introduced first downwards into the left lung. A spasmodic action of the trachea took place, and great efforts for coughing succeeded each contact of the instrument. On turning the latter upwards, and on reaching the larynx, strong movements of deglutition were excited, terminating in fits of coughing as numerous as in the first period of the experiment. The same phenomena occurred when the probe was plunged into the right lung. An ounce of common water being now injected by means of a syringe through the opening into the trachea, several convulsive efforts were excited: and the animal being set at liberty, coughed violently, by which a portion only of the injected fluid was thrown out through the wound. The dog did not, in other respects, shew any particular symptom of uneasiness, and walked off very nimbly to another part of the room.

"Experiment 2. A larger dog was now submitted to the same operation; but here no ring of the trachea was removed as the opening was made through the crico-thyroidean cartilage. The introduction of the probe, directed first downwards and next upwards, produced exactly the same phenomena described in the first experiment. An ounce and a half of solution of tartaric emetic was next injected. Two minutes elapsed, when signs of nausea were clearly exhibited by the animal. In six minutes the efforts for vomiting became very strong; and the contents of the stomach were ejected.

"Experiment 3. A third dog, when stimulated upwards and downwards by the probe passed into the trachea, presented the same symptoms as well as strong movements of deglutition, which are manifested by a curious vermicular action beginning at the pharynx and proceeding downwards, swelling as it passes the different portions of the œsophagus, and raising the trachea placed immediately over them in the recumbent position of the animal. One ounce and a half of an aqueous solution of extract of nux vomica being afterwards injected, the dog gave three or four strong jumps, fell in twenty seconds on its side, as if struck by lightning; and, after many strong convulsive fits, expired.

"Experiment 4. A small quantity of diluted muriatic acid was injected into the lungs of the dog (Experiment 1). He fell on his back instantly, with expressions of extreme and acute pain, accompanied by shrill and piercing screams of distress. In about a minute he arose on his legs, but again fell backwards; and, after a long and peculiar agitation of the fore legs, died.

"On opening the dog killed by the injected solution of nux vomica, the trachea was found frothy; the lungs hepatized; and the cavities of the heart full of blood. The author pretends, that these and other such experiments, which I have neither leisure nor inclination to relate, have led him to believe, that fluid medicines might be administered through the trachea in many thoracic diseases with success; but in opposition to this, I venture to say, and you will agree with me, that so much needless cruelty on dogs, as has been shewn of late by several young experimentalists, will never advance one step our knowledge of physiological phenomena. For after all, though it is true, that by all such experiments we learn, that when acting with a *given* cause on a *given* part of the animal system, we produce a *given* effect, which we see and can describe—still beyond that we cannot go; and though we may thus learn the *why*—we shall never know the *how* that *given* effect and not any other, has been produced—in which only, I take, to consist the essence of physiology.

"A medical gentleman, but little known by name, has recently proposed to substitute for the emplass. meloes canthar, a cerate, which he forms by mixing a certain quantity of caustic ammonia with purified butter of cacao. This soap is applied spread on linen, and produces its effects after a few hours. On this I have to observe, that no soap can be made with a fat substance and ammonia, according to the late researches on this subject. The author wishes to substitute his cerate for cantharides, because the latter have been found to affect the urinary organs; but he ought to have known, that ebullition in water deprives those insects of all power of acting on the kidneys, without altering their epispastic properties. Another of his reasons is much more solid. He hopes, by his cerate, to banish from practice the two or three species of blistering cerate used in Paris; in each of which, arsenic enters as a component part, to the great detriment of the patient; as I was assured by M. Larrey at a meeting of the Phylomathic Society. While on the subject of epispastics, I think I shall render a service to the medical profession in mentioning to them, that Sir H. Davy, in a conversation I had with him a short time since, suggested the use of concentrated acetic acid applied to the part. The skin is raised in blisters after a very short period; a great quantity of fluid is brought to the part, and all the effects of the common emplas. canth. are produced in a neater and equally efficient manner. Sir H. Davy had occasion to use it for a sore throat by which he was affected last spring, and derived immediate and complete benefit from the application of the acid to the neck; since then I have myself employed it with the greatest success. This opens my views on the treatment of croup; as the absorption of the acid in question applied to the neck, might free the larynx of the concrete mucus, by the solution of the latter animal substance, known to take place in acids, particularly the acetic.

"You have given, I see, a review of M. Broussais' book in one of your late numbers. The astonishment it has created amongst the pupils having subsided in part, some of them, who are at the eve of becoming independent by being raised to the Doctoral dignity, have dared to raise their voices against the Professor's theory. Among these I must notice the *thesis* defended, but, alas! ill-defended, by M. Jacquet, within these few weeks. This gentlemen, after giving a clear and summary view of Broussais' doctrine respecting his *monomalady*, taken from his work, proves that it is by no means new, nay, that several authors, from 1660 to 1815, have entertained and expressed the same sentiments on the subject; some of whom indeed seem, from the ample quotations he gives, to have been entirely copied by our modern writers. But by far the most important, and the greatest part of this paper is directed to shew by the report of a number of well-described cases of numerous affections, that, though considered by Broussais to form a part of his system, they can by no means be said to coincide with his principles; and where a system of therapeutics, totally opposite to that he recommends, had alone succeeded in cutting the disease short, and in curing the patient.

"The importance of having a soluble supertartrate of potash for medical purposes, has long engaged the attention of several chemists and physicians in Paris. You have acquainted your readers with the memoirs of Vogel and Thevenin on this subject. M. Meirac, a young gentleman, studying pharmaceutic chemistry under the best masters, has likewise made several interesting experiments on this subject; and their result was communicated to the Phylomathic Society a short time back. The action of the boric acid on the salt in question suffices to render it soluble. The proportions of the former have been variously stated; but M. Meirac has ascertained, by direct experiments, that one-eighth of boric acid is the necessary proportion to render the supertartrate of potash *very* soluble. He also partakes the opinion of other chemists, that during the operation, there is a real combination between the boric and part of the tartaric acid of the supertartrate above mentioned. His experiments tend evidently to shew, that in the soluble cream of tartar, the boric acid does not combine with the potash; but that by the combination of the tartaric acid with the boric, a specific salt is formed, having for its essential character its great solubility in water. In fact, many of the chemical properties of the latter salt are quite different from those of either the boric acid or the cream of tartar; though the latter, by being rendered soluble by the action of the boric acid, does not lose its purgative property.

"I have nothing particular to communicate from either Germany or Italy at present." A. B. GRANVILLE.

Paris, June 1817.

II.—Every fact connected with the function of respiration is of importance. Professor Carradori has observed a very singular peculiarity connected with that of tortoises*.

"It is well known," the Professor remarks, "that although these animals respire by lungs, like many other cold-blooded animals, yet they can bear the privation of air better than any others, being capable of living a long time in a vacuum and in unrespirable air.

"When insects are covered with oil, they are soon suffocated, and do not again revive; as is the case when they are plunged into water and again taken out of it†. Frogs, which live a long time in a vacuum and in unrespirable air, die in less than an hour in oil ‡. Leeches alone live for many hours under oil, as Morand first observed; whence it appears they can resist the complete privation of air, as none is contained in oil.

"A very fat land tortoise was put into very pure olive oil, which stood six inches above the body of the animal, and was left in it for six hours. During this time some bubbles of air were disengaged. On being taken out, as it was thought to be dead, and placed in the air, on the ground in a garden, it revived. After two days, it was again put into the oil, and lived for twenty-four hours. On withdrawing it when it appeared dead, and placing it on the ground in the garden, it vomited a considerable quantity of oil; but it did not again fairly recover, and died in a day.

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* *Annales de Chimie et de Phys.* t. v. p. 94,—extracted from the *Giornale de Fisica*, ix. 318.

† Carradori on the return to life of flies in a state of asphyxia.—*Op. Sulti. Milan.*

‡ *Ann. de Chim.* de Pavie, t. 17.

"In another experiment, made with a smaller tortoise, the animal lived after being kept thirty-three hours under oil; but, when kept for thirty-six hours, it died. It is surprising that an animal which respires by lungs can live so long under an absolute privation of air."

III.—M. Brugnatelli's supposed discovery of a remedy for hydrophobia, has been noticed in the *Repository*[*] and some other journals in this country; but no account of the circumstances connected with this imagined discovery, is as yet before the public. We have not seen the journal of Brugnatelli which contains his essay on this subject; but we hasten to lay before our readers a translation of an abstract of it, with remarks by *M. Gaultier de Claubry*[†]. The paper is intitled "*Observations on the Efficacy of Hydro-chlorine* (chlore aqueux) *for Preventing and Curing Hydrophobia*, by Professor *Brugnatelli*."

"M. Brugnatelli (says the author of the remarks), reflecting on the promptitude with which chlorine (oxymuriatic acid) decomposes animal substances and destroys noxious effluvia, conceived the idea of employing it as a remedy in cases of disease produced by the introduction of animal poisons into the system; against the effects of which, no efficacious treatment is yet known. The virus of rabies particularly attracted his attention; but he evidently forgot, that the actual cautery and caustics are effectual means of preventing rabies, and even of arresting its early symptoms. However that may be, the following is an abstract of the observations he has published on this subject in his interesting journal.

"On the 7th of July 1816, five children were bitten by a dog who was supposed to be effected with hydrophobia. The physician on the spot declared that he had had instant recourse to the most appropriate external and internal remedies, but without stating what they were. The children were afterwards carried to the hospital of Milan, where, by the advice of M. Brugnatelli, the wounds were washed with concentrated hydro-chlorine, and covered with pledgets soaked in the same fluid, which was also administered internally, combined with crumbs of bread, of a strength adapted to the age of each child. This was the second day after the accident, and the first symptoms of hydrophobia were already apparent.

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[*] Vol. vii. p. 252. and *Retrospect*, vol. viii. p. 61.

[†] *Journal Général de Médecine, &c.* tome lix. p. 303.

"On the same day, the 7th of July, two other children were bitten by the same dog. One of them, in whom the parts were scarified, washed with soap and water, and treated with mercurial frictions, was attacked with hydrophobia on the first of August, and died; whilst the other child, who, after shewing symptoms of hydrophobia, was treated with hydro-chlorine both externally and internally, recovered in a few days. When M. Brugnatelli published this case, sixty days had elapsed from the time when these six children were bitten, and they continued free from any symptom of hydrophobia.

"On the 12th of August, a little girl who was bitten by a large dog, was immediately treated locally with the hydro-chloric lotion, and pledgets dipped in it were kept applied over the wounds. She was in perfect health on the 29th of the month; but on account of the great number of the bites, some of which were very deep, she took, once a week, six pills composed of bread soaked in hydro-chlorine.

"Another child, seven years of age, was bitten in two places in the right arm by another dog, and taken to the hospital of Milan on the 18th of August. The wounds were washed with hydro-chlorine, and a general bath, mercurial frictions, some gentle purgatives, and the internal use of the extract of belladonna, were prescribed. The last mentioned medicine, however, was soon left off on account of its hurtful effects; and on the 29th of September, the child left the hospital cured.

"A father and two sons, who were bitten by a cat, which was supposed to be hydrophobic, and treated both externally and internally with hydro-chlorine, were perfectly cured without having employed any other remedy.

"M. Brugnatelli, desirous of not prescribing fluid remedies for hydrophobic patients, prefers using bread pills embued with hydro-chlorine. Children, about eight years of age may take two scruples of hydro-chlorine for a dose, and repeat it four or five times a day. The dose may be gradually increased according to the age of the patient, and the disagreeable odour evaded by enveloping the pills in moistened bread.

"On these cases of M. Brugnatelli, M. Gaultier-de-Claubry remarks, that no positive inference can be drawn from the last fact brought forward to substantiate the efficacy of this remedy, since it is not certain that the cat which bit the father and his two children was really hydrophobic, as it was killed almost immediately after the accident. The five children of the same village, who were bitten on the 7th of July by the same dog that escaped pursuit, were, it is true, treated with hydro-chlorine, and have not been attacked by hydrophobia; but it may be demanded, whether this dog was really rabid? The case would certainly have been more convincing, if the five children had been bitten by different dogs. As it is, it can only be classed with those, which, from being too uncertain, or equivocal, are useless, as far as regards the progress of Science and the cause of Humanity.

" We are informed, indeed, that the dog already mentioned, on the same day, bit two other children in a neighbouring village. The author says, one of them became hydrophobic on the 24th day, and died before his remedy could be employed, although deep scarifications, washings with soap and water, and mercurial frictions, were employed; whilst the other, in whom signs of hydrophobia had already appeared, was cured by the use, both externally and internally, of hydro-chlorine. Under the supposition that the dog was rabid, the treatment to which the first of these children was submitted, appears to us not to have been sufficient for destroying the hydrophobic virus; consequently the death of the child, if it died in a rabid state, cannot be a matter of astonishment. But, as the author states, only from report, which he had no opportunity of verifying, that the symptoms of hydrophobia were already manifest in the second child, we still doubt whether this was the case, and even whether the child was really infected with the virus of rabies. In effect, the first of these two children was bitten in the face, and some of the wounds penetrated into the mouth; whereas the second had two wounds only on the fore-arm. Besides, this child was a boy, and being bit through the cloth of his coat, is it not easy to conceive that the saliva might be cleaned from the teeth in passing through the cloth, and the wounds not inoculated with it? If this supposition be correct, the hydro-chlorine could not prevent the developement of a disease, the virus of which had never existed in the individual.

" The last alledged fact of the infant bitten by a dog can have no weight in the discussion, as it is not circumstantially detailed, and we have no proof that the dog was rabid. Upon the whole, therefore, the cases of M. Brugnatelli do not appear to us to be sufficient to establish the efficacy of the remedy he has proposed, either for correcting the symptoms of rabies, or curing them after they have appeared. Let us now examine his theory.

" The extraordinary efficacy of chlorine," he remarks, " in destroying, as rapidly as fire does, a great number of animal poisons, both fixed and elastic, in the state of vapour and of gas, when it is properly employed, either in the liquid or gaseous form, leads us to regard it as a very powerful antidote of animal poisons. Contemplating these effects, I conceived the greatest hopes of accomplishing, by its means, the complete decomposition of the virus of rabies. As many cases have afforded ample proof that this virus often remains inert in the wound, and is not absorbed into the circulation till after a considerable time has elapsed, there was reason for thinking that the application of this chemical agent, even some time after the bite was inflicted, might still produce the desired effect: and as hydrochlorine is neither irritating, nor poisonous, nor corrosive, it may be readily employed by physicians, and taken by the patients*."

"We do not pretend to deny the general property which chlorine possesses of destroying the deleterious effluvia which arise from animal matter under certain circumstances: but what hopes can we have of combatting successfully the danger to which individuals bitten by rabid animals are exposed, by treating them with hydro-chlorine only, and neglecting those curative means, the efficacy of which is beyond doubt? The deficiency of any irritating, poisonous, or corrosive property in chlorine is the very circumstance which prevents us from trusting to it for decomposing the virus of rabies, whether still remaining in the wound, or already taken into the system, and displaying its effects by the symptoms; whilst the truth cannot be too often repeated, that the most essential point in the treatment of wounds produced by the cause under consideration, is the destruction of the wounded part, and decomposing the virus at the surface of the bite; both of which are completely effected by the local action of the actual cautery and caustics: an important practice, which cannot have been known, or properly felt, by the Italian physicians, who have had their attentions engaged with the anti-rabid properties attributed to hydro-chlorine.

"The result of these critical reflections," observes M. Gaultier de Claubry, "is, that the facts brought forward by M. Brugnatelli are not demonstrative of the opinion he has hazarded; that, consequently, without a culpable imprudence, the new chemical means which he has proposed cannot be employed to the neglecting of the more certainly efficacious method of treatment by scarifications; and that, as experience has unfortunately demonstrated the impotency of both Nature and Art, when hydrophobia has once decidedly shewn itself, vague assertions and badly attested facts, in proof of the possibility of still curing it, ought to have no influence on the mind of the practitioner."

"* The author rests too much on the assertion of *Fourcroy* and *Guyton de Morveau*, who necessarily supposed chlorine to possess these negative qualities: but, in a science of observation, opinions ought to be disregarded, and facts only confided in.—G. de C."

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I.—SOCIETIES.

Royal Society.—On Thursday, May 22nd, a paper by Mr. Sewell, assistant at the Veterinary College, was read, describing a new mode of curing a chronic lameness in the feet of a horse. A charger having got a chronic lameness in the fore foot, was given by the owner to the Veterinary College for experiment. It occurred to Mr. Sewell that, by cutting the nerves that enter the foot, the sensibility might be destroyed, and the lameness removed. He accordingly cut out about two inches of the nerves that entered the pastern, sewed up the place, and healed it. The consequence was the removal of the lameness, and the restoration of the horse to the owner perfectly sound.—On Thursday, June 5, a paper by Dr. Leach was read, on the genus ocythoe of Rafinesque; supposed to be that of the animal often found in the paper nautilus. Dr. Leach considers the observations made by the gentlemen of the late Congo expedition as deciding the question, whether this is the animal belonging to the nautilus. Various paper nautili were caught containing these animals in them. When put into water, the animal moved about like a common polypus, left the shell, attached itself to the sides of the vessel, and shewed no inclination to return to it again. These, and similar observations, induce Dr. Leach to conclude, that the true inhabitant of the paper nautilus shell is still unknown, and that the animal in question does not belong to it, although it occasionally takes up its residence in it. At the same meeting, a paper by Sir E. Home, Bart. was read, explaining the differences between the sepia and shell vermes. When the young of the shell vermes are in the egg, the blood is aerated through its coats; and on that account, the shell is not formed till after they are hatched. To secure the egg from injury, it is put into an annular bag. The author gives a description of the auriculata, and shows that the animal found in it is a sepia, and not the original animal of the shell, from the way in which the young are produced.

Linnæan Society.—On Saturday, May 24th, the Society met for the election of office-bearers for the ensuing year. The following members were chosen: President, Sir James Edward Smith; Treasurer, Edward Forster, Esq.; Secretary, Alexander Macleay, Esq.; Under Secretary, Mr. Richard Taylor; Council, Sir James Edward Smith; Samuel, Lord Bishop of Carlisle; Edward Foster, Esq.; George Bellas Greenough, Esq.; Aylmer Bourke Lambert, Esq.; William Horton Lloyd, Esq.; Alexander Macleay, Esq.; William George Maton, M.D.; Joseph Sabine, Esq.; Lord Stanley; Michael Bland, Esq.; George, Earl of Mountnorris; Sir Christopher Pegge; William Pilkington, Esq.; Charles Stokes, Esq.—June 3rd a description of the lycoperdon solidum, by Dr. Macbride, of Charleston, Carolina, was read. The substance so called is an immense tuber, sometimes 40lb. in weight, found in the southern parts of the United States. It may be used as food. Soon after it is dug up, it becomes very hard. It exhibits no regular structure, and seems to have the property of uniting with the roots of those trees near which it grows. It vegetates under the earth, and is usually found in the fields that have been cleared of wood only about three years.—June 17th, a paper by Mr. Seaton was read, on the red and white varieties of the lychnis *dioica.* Some botanists are of opinion that these two plants constitute two distinct species, while others think that they are only varieties. To decide the point, Mr. Seaton placed them near each other. The produce was a hybride plant with pink flowers, which was capable of producing seeds like any other plant. Hence he conceives it to follow, that they are only varieties.

Associated Apothecaries and Surgeon-Apothecaries of England and Wales.

Committee Room, July 18, 1817.

A General Meeting of the Subscribers to the Association of Apothecaries and Surgeon-Apothecaries of England and Wales will be held at the Crown and Anchor Tavern, Strand, on Wednesday the 20th of August next, at Two o'Clock precisely; to receive a Report of the Committee, and on other affairs of considerable importance to the Interests of the Association. By order of the Committee,

W. T. WARD, *Secretary.*

N.B. None but Subscribers can be admitted.

The following is a copy of the circular letter to the Subscribers:

Sir, *I am instructed to communicate, that the principal motives which induce the* General Committee *to call a Meeting of the Association, are:* 1. *To receive the Report of the Proceedings of the Committee since the last Report, of April the 24th,* 1816; *and to take into consideration what course is the most proper to pursue under existing circumstances:* 2. *To receive the resignation of the Chairman, Dr.* Burrows; *of whose great exertions and eminent services the Committee is fully sensible; but which he has signified his inability of longer continuing:* 3. *To hear the state of the Fund, and decide upon its appropriation:* 4. *To re-organize the Committee, which, from deaths, resignations, &c. is rendered ineffective.*

The Committee begs leave to add, that it has fully advertized this Meeting; but particularly requests that the Gentlemen who acted as Provincial Chairmen, or Secretaries, will apprize the Subscribers in their respective districts of it. I am, Sir, &c. W. T. WARD, Sec.

Holles Street, Cavendish Square, July 22nd, 1817.

II.—PRIZE QUESTIONS.

The Royal Medical Society of Edinburgh has proposed the following question, as the subject of a prize essay for the year 1818:

"What changes are produced on atmospherical air by the action of the skin of the living human body?"

The members only are invited to be candidates. The dissertations may be written in English, French, or Latin, and must be transmitted to the secretary on or before the first of December 1817. To each dissertation shall be prefixed a motto, which shall also be written on the outside of a sealed packet, containing the name and address of the author.

The Royal Academy of Sciences and Literature of Brussels, has proposed the following questions, among others, for competition during the year 1818.—Is it possible, from satisfactory experiments, or reasons deduced from the doctrine of determinate proportions, to establish with certainty that the radical of muriatic acid is a compound body; or, is it more probable that the radicle is a simple body? Which of the two methods (experiment or the doctrine of determinate proportion) is best calculated to simplify the theory of chemical facts?—The prize is to be a gold medal of the weight of twenty-five ducats. The essays to be written in Latin, French, Dutch, or German, and delivered before the 1st of February, 1818.

The Royal Society of Sciences of Copenhagen proposes the following question, as the subject of a prize which is to consist of a gold medal of the value of thirty-six ducats:—"Ought the artificial perforation of the membrane of the tympanum to be permitted?"

The following prize questions have been also proposed by the *Société de Medecine-Pratique de Montpellier* for the year 1818.—Is our knowledge of the nature, the character, and the treatment of epilepsy influenced by the information we have acquired upon the functions of the nervous system, and those of the brain in particular? What are the results of the information we have acquired, and in what manner can it be applied in promoting the cure of this disease?

III.—MEDICAL.

Test of Arsenic.—Dr. Paris has proposed the following method of employing the *nitrate of silver* as a test of the presence of arsenic. "Instead of conducting the trial in glasses, drop the suspected liquor upon writing paper, making a broad line with it. Along this line, if a stick of lunar caustic be slowly drawn, a streak is produced of a colour resembling that called *Indian yellow;* and this is the case whether arsenic or a phosphoric salt be present; but the one from arsenic is rough and curdy, as if effected by a crayon; the other, quite smooth and even in its appearance, such as would be produced by a water colour. A more important, and still more unequivocal, mark of distinction soon succeeds: in less than two minutes the phosphoric yellow fades into a *sad green,* becoming gradually darker, until it becomes black: the arsenical yellow, on the other hand, remains permanent for some time, when it becomes brown. These experiments should not be made in the sunshine, as the transition of colour is then too rapid.—*Annals of Phil.* vol. x. p. 60.

Mr. A. T. Thomson, one of the Editors, in repeating these experiments, found that, if the above directions be strictly adhered to, the test is ambiguous; but if modified in the following manner, it is one of the best for detecting the presence of arsenic hitherto suggested. When the lunar caustic instantly produces a very bright yellow, we may suspect it is occasioned by a phosphoric salt; and this is rendered certain, if, notwithstanding it be brushed over with liquid ammonia, the colour becomes in a few minutes a sad-green, and, as it dries, a dark claret brown. If the suspected solution contain arsenic, combined with potash, as in Fowler's solution, or that of the London Pharmacopœia, the streak will be curdy, as Dr. Paris describes; but of a very pale yellow colour. If it contain no alkali, it will be indistinct, and of a greenish-yellow tint; and if any muriate be present, it will be nearly white. The presence of arsenic, however, is unequivocally determined in all, if, on brushing them over with liquid ammonia, a bright queen's yellow be instantly produced. This remains permanent for nearly an hour; and, in changing, the first and second acquire a light or yellowish mahogany brown colour, and the third a very dark brown; but after some hours, the whole becomes nearly black.

Antidote of Prussic Acid.—*M. Virey*, from observing the effects of sulphate of iron in restoring a cow, who was nearly killed by the essential oil of bitter almonds, proposes the solution of sulphate of iron as the antidote of prussic acid.

Tic Doloureux.—A Correspondent informs us, that he has seen a tincture of the leaves of Atropa Belladonna, made in the same manner as the tincture of henbane of the London Pharmacopœia, advantageously employed as an external application in two cases of tic doloureux.

Cure of Epilepsy.—A young man, who had been epileptic for eight years, and who had tried various remedies, was at length cured by taking the superacetate of lead, in doses of three grains, night and morning for five days. The use of it was begun three days before the moon was at the full, and then repeated for five lunar periods. After each dose a table spoonful of olive oil was swallowed. M. Eberle, who details the case, observes that this remedy is more likely to succeed in cases in which the accessions are regular and the patient strong.—*Gazette de Santé.*

IV.—SURGICAL.

Aneurism.—Signor Palleta, in operating upon a popliteal aneurism, according to the method of Scarpa, having removed the ligature on the fourth day, the wound healed by the first intention, and the cure was perfected on the fourteenth day after the operation.—*Giorn. di Fisica, 2d Bis.* 1817.

V.—CHEMICAL.

Artificial Congelation of Water.—Professor Leslie in a letter to Dr. Thomson, has announced that parched oatmeal has a stronger power of absorbing humidity than even decayed trap, and hence may be advantageously used for freezing water in vacuo. He states that with a body of dried oatmeal a foot in diameter, and rather more than an inch deep, he froze a pound and a quarter of water contained in a hemispherical porous cup, although the temperament of the room was above 50°. The Professor adds, "that when the experiment was reserved, and the surface of the water about double that of the meal, this substance acquired, after the air under the receiver had been rarified, a heat exceeding 50° of Faht., so as to feel indeed sensibly hot on applying the hand."—*Annals of Phil.* vol. x. p. 61.

Explosion in a Laboratory.—On the 12th of February last, whilst a pupil of one of the first druggists in Munich was triturating in a mortar, a mixture of three ounces of oxymuriate of potash, sulphur, sugar, and cinnabar, for forming matches, the mixture exploded, and wounded the lad so severely that he died in two hours after the accident: and at the same time his master received several dangerous wounds. The explosion was so great that it was felt in almost every quarter of the town: the windows were broken; and a piece of the shattered mortar, that was driven through them, wounded a gentleman passing in the street.

Volatility of Mercury.—Dr. Hermbstaed has ascertained that the minimum of the temperature at which mercury is volatilized is 80°. Farenheit: hence it is easy to explain why workmen employed in the silvering of looking glasses are sometimes salivated.—*Giornale di Fisica, &c. 2d Bisnestre,* 1817.

Colouring Matter of the Blood.—Berzelius has lately examined the opinion deduced by Mr. Brande from his experiments upon blood, and confirmed by those of Vauquelin, that the colouring matter of the blood is perfectly free from iron. He has been led to an opposite conclusion, from having found that the ashes produced by incinerating this colouring matter are one half oxide of iron; and conceives he is authorised in regarding his former opinion on this subject confirmed—(vide *Animal Chemistry.*) He asserts, therefore, that, as the colouring matter of the blood is distinguished from colourless animal substances by the quantity of oxide of iron which it yields when calcined, there is some reason for thinking that iron contributes to give blood its deep colour.—*Annales de Chim.* t. v. p. 42.

VI.—MISCELLANEOUS.

Lactometer.—An instrument for the purpose of ascertaining the relative quantity of cream produced from milk, has lately been constructed by Mr. Jones, mathematical instrument maker, Charing Cross. It consists of several glass tubes, resembling test tubes, mounted on a stand, each about eleven inches long and three quarters of an inch in diameter, closed at one end, and open and a little flanched at the other. At ten inches from the bottom of each tube, a mark is made upon the glass, having an o (zero) placed against it; and, from this point, the tube is divided into tenths of inches, and graduated downwards for three inches, so that each division is $\frac{1}{100}$ of the tube. By filling these tubes with the new milk of different cows, the percentage of cream will be evident upon inspection.—*Journal of Science and the Arts.*

Upon a recent ballot for the place of Foreign Associate of the French Royal Academy of Sciences, in the room of M. Klaproth, deceased, M. Scarpa was elected; 27 votes having combined in his favour, and 21 only for Sir Humphry Davy.

A METEOROLOGICAL TABLE,

From the 21st of June to the 20th of July 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.	Barometer. Min.	Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29 77	29 73	78	56		NE.	1 Mist... 2 Sun...
22	29 82	29 78	77	58		NE..	1 Mist... 2 Sun....
23	29 75	29 64	77	59		NNE..	1 Mist...2Sun....3Cloud..
24	29 64	29 62	75	53	07	NNW.	1 Showers. 3 Sun..
25	29 63	29 59	78	57	07	NW.NNE.	1 S.... 2 R. 3 S.. 4 Cd..
26	29 54	29 44	78	48		NE..	1 3 Sun... 2 Cd.. 4 Mn.
27	29 37	29 30	75	55	17	NE..E.	1 Sun.. 3Cloud.... 4Rain..
28	29 51	29 44	70	53		SW..	1 Cloud.. 2 Sun..
29	29 51	29 33	76	53	04	SW..SSE.	1 Sun.. 3 Cloud.. 4 Rain
30	29 41	29 44	71	49	07	SW..E.	1 3 S..2Th..Lt.&R.4M...
1	28 94	28 83	74	53	55	SW..ESE..	1 Sun... 2 Cd.. 3 Rain...
2	29 43	29 37	70	50	03	SW...	1 Sun.. 3 Sh. 4 Star...
3	29 44	29 37	69	59		WSW..	1 Sun.. 4 Cloud..
4	29 35	29 27	69	48	21	NW..NE..	1 4 Rain..2Sun..3Cloud..
5	29 33	29 29	63	48	80	N..SW..	1 4 C..2Th...Lt..R....3S.
6	29 29	29 29	74	51	12	WSW.	1 3 Sun.. 2 4 Rain..
7	29 39	29 39	66	47		SW..	1 Sun..
8	29 50	29 50	63	49		WSW..	1 Cloud.. 2 Sun..
9	29 54	29 52	66	44		W..	1 Cloud.. 3 Sun...
10	29 52	29 47	74	52	05	SW.E.	1 Sun.. 2 Showers.
11	29 57	29 54	73	51		N.NE.	1 3 4 Cd... 2 S. and Sh.
12	29 61	29 58	69	48		NE.SW.	1 Cd... 2 Sun. and Sh.
13	29 45	29 34	70	49	16	SW.S.	1 Sun... 2 Rain..
14	29 23	29 05	69	51	18	SW..NE.	1 S... 3 R.. 4 Cd...
15	29 32	29 03	62	45	04	NE..N..	1 Showers. 3 Sun..
16	29 49	29 47	63	51	02	NW..N.	1 Sun.. 2 Showers.
17	29 47	29 47	67	49		W..	1 Cloud.. 2 Sun..
18	29 61	29 59	66	50	05	N.NE.	1 Cloud. 2 Showers.
19	29 62	29 59	68	46		NW.NE.W.	1 3 S... 2 Cd.. 4 Mn...
20	29 54	29 45	68	49	03	WSW..	1 Sun... 2 Cd... 4 Rain.

The quantity of rain during the month of June was 2 inches and 04-100ths.

Observations on Diseases at Richmond.

THE diseases under treatment the last period, were Cephalalgia, Cholera Morbus, Convulsiones, Diarrhœa, Dyspepsia, Febris Catarrhalis, Febris Simplex, Gastrodynia, Hysteria, Icterus, Obstipatio, Ophthalmia, Rheumatismus, Rubeola, and Urticaria.

The last year was very unpropitious to vegetable productions, and there was also in this district a great mortality amongst dogs and cats, yet it was particularly favourable to human life. The number of burials, according to the parish register of Richmond, was about three-eighths less than the average of eleven preceding years, and the baptisms were one-sixth more than the average for the same time.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of JUNE to the 19th of JULY, 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Guage.	De Luc's Hygrom. *Dry.*		*Damp.*		Winds.		Atmo. Variation		
	20	72	82	69	29^{8}	29^{7}		0	5	0		SE	E	Fine	—	—
	21	74	83	63	29^{8}	22^{9}		0		0	2	SE	E	Fine	—	—
	22	69	82	61	30	30				3	2	N	N	Fine	—	—
○	23	68	80	63	29^{9}	29^{9}			2	1		N	N	Fine	—	—
	24	67	79	60	29^{9}	29^{9}		3	0			WSW	WSW	Fine	—	Sho'
	25	63	75	61	30	30		0	0	0	0	WSW	SW	Fine	—	—
	26	66	79	64	30	29^{9}		0	0	0	0	SW	S	Fine	—	—
	27	64	75	63	29^{6}	29^{6}				1	1	NE	SW	Fine	Rain	Fine
	28	61	71	60	29^{6}	29^{6}		2	2			SW	SW	Fine	Rain	Clo.
	29	63	70	61	29^{5}	29^{7}		3	2			WSW	SE	Fine	—	Rain
	30	64	69	59	29^{6}	29^{3}		2	0		0	S	S	Clo.	Fine	Clo.
◐																
	1	62	68	57	29^{5}	29^{4}				1	2	SE	SW	Rain	—	Clo.
	2	61	67	53	29^{7}	29^{9}	.09			1	1	SW	SW	Clo.	Fine	—
	3	58	67	55	29^{7}	29^{6}	.10			1	2	S	E	Fine	Rain	—
	4	57	63	59	29^{6}	29^{5}	.11			3	5	SE	SW	Rain	Clo.	Fine
	5	66	67	53	29^{5}	29^{7}	.10			5	5	SW	SW	Clo.	Rain	Clo.
	6	56	64	53	29^{7}	29^{7}	.07			5	5	SW	SW	Rain	Clo.	Fine
	7	60	69	54	29^{7}	29^{8}	.03			3	3	SW	SW	Fine	Rain	Fine
●	8	59	70	54	29^{8}	29^{8}	.04			3	3	W	W	Fine	—	—
	9	59	70	55	29^{8}	29^{7}				2	2	SW	SW	Fine	—	—
	10	57	68	53	29^{7}	29^{7}				2	2	SW	W	Fine	—	—
	11	56	68	51	29^{7}	29^{6}				2	3	SW	SW	Clo.	Fine	—
	12	59	67	48	29^{7}	29^{7}				3	3	W	SW	Fine	Clo.	Fine
	13	58	68	47	29^{8}	29^{8}				5	5	W	SW	Fine	Clo.	Fine
	14	59	66	49	29^{8}	29^{7}				5	4	SW	SW	Clo.	—	—
	15	60	66	52	29^{7}	29^{7}	.06			3	4	SSW	SW	Rain	—	Clo.
	16	58	67	51	29^{6}	29^{5}				3	3	W	W	Clo.	Rain	Clo.
☽	17	63	69	54	29^{6}	29^{6}	.05			3	3	W	W	Fine	—	—
	18	62	69	57	29^{4}	29^{8}				3	3	W	W	Fine	—	—
	19	63	71	56	29^{9}	29^{9}				3	3	W	W	Fine	—	—

The quantity of rain that fell in the month of June cannot be easily ascertained, as the guage had leaked the latter part of that month, but it is supposed to be about 1 inch and 60-100ths.

BILL OF MORTALITY *from June 17, to July 15, 1817.*

		June 24.	*July 1.*	*July 8.*	*July 15.*	
CHRISTENED.	Males	188	137	188	347	
	Females	161	123	168	303	
		349	260	356	650	Total, 1615.
BURIED	Males	122	153	166	210	
	Females	144	146	171	214	
		266	299	337	424	Total, 1326.
OF WHOM HAVE DIED	Under 2 Years.	89	90	107	113	
	Betw. 2 and 5	22	29	41	42	
	5 and 10	16	15	14	15	
	10 and 20	10	10	14	13	
	20 and 30	16	24	17	22	
	30 and 40	24	21	31	36	
	40 and 50	21	30	29	41	
	50 and 60	19	22	26	41	
	60 and 70	16	20	28	40	
	70 and 80	16	22	18	23	
	80 and 90	14	15	9	15	
	90 and 100	2	1	3	4	
	105	1	0	0	0	
SMALL POX		20	26	42	36	Total [illegible]

A REGISTER OF DISEASES

Between JUNE 20th, and JULY 19th, 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	12		Entrodynia	24	
Abscessio	27		Epilepsia.	6	1
Acne	3		Epistaxis	6	
Amenorrhœa	21		Erysipelas	16	
Amentia	3		Erythema *læve*	4	
Anasarca	18	2	——— *nodosum*	1	
Anorexia	9		Exostosis	2	
Aphtha *lactentium*	7		Febris *intermittent.*	10	
Apoplexia	9	5	—— *catarrhalis*	18	
Ascites	12	3	—— *Synocha*	51	
Asthenia	37		—— *Typhus mitior*	17	2
Asthma	31	3	—— *Typhus gravior*	5	3
Atrophia	6	2	—— *Synochus*	20	
Bronchitis *acuta*	2		—— *Puerpera*	1	
——— *chronica*	6		—— *remit. Infant*	22	
Bronchocele	2		Fistula	2	
Calculus	3		Fungus	2	
Caligo	1		Furunculus	5	
Cancer	2		Gastritis	2	
Carbunculus	8		Gastrodynia	29	
Cardialgia	15		Gonorrhœa	23	
Carditis	3		Hæmatemesis	1	
Catalepsia	1		Hæmaturia	1	
Catarrhus	56		Hæmoptöe	15	
Cephalalgia	30		Hæmorrhois	26	
Cephalæa	6		Hemiplegia	6	3
Chlorosis	10		Hepatalgia	5	
Chorea	3		Hepatitis	15	2
Cholera	38		Hernia	4	
Colica	21		Herpes *Zoster*	4	
—— *Pictonum*	6		——— *circinatus*	1	
Contractura	1		——— *labialis*	2	
Convulsio	4	2	——— *præputialis*	3	
Cystitis	1	1	Hydrarthyrus	1	
Cynanche *Tonsillaris*	33		Hydrocele	4	
——— *maligna*	3		Hydrocephalus	5	4
——— *Trachealis*	2	1	Hydrothorax.	3	1
——— *Parotidea*	6		Hypochondriasis	9	
Diarrhœa	71		Hysteralgia	2	
Dysecöea	3		Hysteria	18	
Dysenteria	18	1	Hysteritis	1	
Dyspepsia	80		Icterus	9	
Dyspnœa	19		Ileus	2	1
Dysphagia	1		Impetigo *figurata*	3	
Dystocia	2		——— *sparsa*	2	
Dysuria	4		——— *erysipelatodes*	2	
Ecthyma	3		——— *scabida*	1	
Eczema	5		Ischias	5	
Enuresis	2		Ischuria	6	
Enteritis	8	1	Lepra	1	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Leucorrhœa	17		Prolapsus	7	
Lichen *simplex*	2		Prurigo *mitis*	2	
Lithiasis	1		——— *senilis*	4	
Mania	10	1	Psoriasis *guttata*	7	
Melancholia	3		——— *gyrata*	2	
Menorrhagia	19		——— *inveterata*	2	
Morbi *Infantiles**	96	2	Purpura *simplex*	1	
Morbi *Biliosi*†	83		Pyrosis	7	
Nephralgia	2		Rachitis	2	
Nephritis	1		Rheumatismus *acutus*	42	
Obstipatio	24		——— *chronicus*	44	
Odontalgia	23		Rubeola	43	2
Opththalmia	39		Sarcocele	1	
Otalgia	5		Scabies	80	
Palpitatio	5		Scarlatina *simplex*	18	
Paracusis	2		——— *anginosa*	1	
Paralysis	8		——— *maligna*	4	1
Paraplegia	2		Scirrhus	2	
Paronychia	1		Scorbutus	4	
Peripneumonia	4		Scrofula	13	
Peritonitis	9	1	Spasmi	5	
Pertussis	28	1	Splenitis	1	
Phlegmasia *dolens*	2		Strictura	6	
Phlogosis	8		Strophulus *intertinctus*	4	
Phrenitis	5	2	Syncope	2	
Phthisis *Pulmonalis*	25	11	Syphilis	31	
Pityriasis	2		Tabes Mesenterica	2	2
Plethora	9		Tic Doloreux	2	
Pleuritis	2[illegible]		Vaccinia	54	
Pleurodyne	4		Varicella	9	
Pneumonia	20	3	Variola	54	8
Podagra	20		Vermes	27	
Polypus	1		Vertigo	27	
Pompholyx *benignus*	1		Urticaria *febrilis*	3	
Porrigo *larvalis*	9		——— *evanida*	2	
——— *decalvans*	2				
——— *scutulata*	10		Total of Cases	2110	
——— *favosa*	3		Total of Deaths	......	72

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

Generally the diseases of last month partake of that nature usual to the season; hence there is nothing but *Variola* particularly demanding notice.

Small Pox however still forces itself upon our observation. It has we believe been more prevalent than for many years past, and has assumed a more than usually virulent character; many of the cases having been of the confluent kind. This may in some degree account for so many, who had previously undergone vaccination, being infected by small pox, as we remarked in our last report; and we are concerned to find, from the increasing testimonies of medical practitioners, that these instances have been much and widely extended. So little modified has the disease in some cases appeared to have been by the influence of the vaccine inoculation, that death has ensued: an effect which, as far as our information goes, was never before produced by small pox, after the patient had been subject to the action of the vaccine virus.

LITERARY NOTICES.

Dr. Bancroft has in the press and nearly ready for publication, A Sequel to his Essay on Yellow Fever.

In the press and speedily will be published, the History of Vaccination, by James Moore, Surgeon.

Professor Orfila, author of the celebrated Treatise on Animal, Mineral, and Vegetable Poisons, has in the press an Elementary Work on Chemistry.

Mr. Alibert has in the press a very splendid work, intitled *Nosologie Naturelle, ou les Maladies du Corps Humain, distribuées par Familles.* The work will consist of two quarto volumes, with coloured plates. We have had some of the plates presented to us, and can bear testimony of their accuracy and beauty.

MONTHLY CATALOGUE OF BOOKS.

An Essay on Capacity and Genius. 8vo.

Practical Observations on the Cure of the Gonorrhœa Virulenta in Men. By Thomas Whately. The Second Edition, with additional Notes and Corrections. 8vo.

An Essay on the Nature of Heat, Light, and Electricity. By C. C. Bompass.

NOTICES TO CORRESPONDENTS.

Communications are received from Dr. H. Robertson, Dr. John Astbury, Mr. Spilsbury, Mr. Coombs, Mr. Chapman, *&c.*

The subject of Mr. Rawlins' *(of Oxford) Letter shall certainly receive attention in the next Number.*

A short Sketch of the Pathology of Dropsy, *and several* Authenticated Cases, *are come to hand.*

Communications intended for insertion in the subsequent Number should be sent before the 12th *of the month; and should be addressed (free of expense) to* Mr. Shury, *Printer,* 7, *Berwick Street, Soho; by whom Books for the Review Department, Articles of Intelligence, &c. &c. will also be received.*

This Publication, by application to the Clerks of the General Post Office, London; or, if previously ordered, of the Post Masters, British or Foreign, will be sent to any of the British Colonies or Foreign Countries, upon the same terms as other Periodical Works.

THE
LONDON MEDICAL
REPOSITORY.

No. 45. SEPTEMBER 1, 1817. Vol. VIII.

PART I.

ORIGINAL COMMUNICATIONS.

I.

AN ESSAY ON DISEASES
RESEMBLING
THE VENEREAL DISEASE.

BY A PHYSICIAN.

(Continued from p. 131.*)*

PART II.

Of Affections that may be mistaken for Venereal Enlargement of the Inguinal Glands.

Medical writers, and the generality of practitioners, divide buboes in the groin, resulting from, or connected with, venereal contagion, into three kinds: the venereal, the primary, and the sympathetic. The first of these succeeding to chancre; the second, shewing itself without any preceding sore or discharge; and the last being connected with gonorrhœa. I should not attack this arrangement of buboes, if it were not set up as a rule and guide for practice; but the distinction has been insisted upon on these grounds, that a bubo succeeding to chancre is the only one of the three requiring mercury. Nay, more; that in the others, mercury is by no means to be employed. The man of experience, however, who is unprejudiced and open to conviction, knows that, as far at least as regards disease, Nature is not to be fettered by fixed rules. In the generality of cases I will admit, that buboes which have not been preceded by chancre, may have yielded to other remedies than mercury. But to maintain, that in no case is syphilis conveyed into the constitution through the medium of a bubo, except where that is preceded by chancre, as many have done, is boldly to set up a theory in opposition to experience. Besides, it is very difficult in many cases to ascertain whether a chancre has been present or not. Many men, who have an interest in deceiving you, will do so; in women, it is still more difficult, from the difference of structure, to learn whether a small sore has preceded the appearance of a bubo in the groin.

In spite then of all your endeavours to get at the truth, you will not learn it; you may be led to think that there has been no chancre, and if you happen to have adopted the doctrine of those who tell you that no bubo, without preceding chancre, can be syphilitic, you will, considering the case before you as a primary bubo and consequently as one which cannot infect the constitution, leave the case to Nature, or employ unavailing remedies, still persisting in your refusal to call in the aid of mercury. The best rule is to act in every case according to the circumstances of that particular case. I know that I have frequently failed in my attempts to heal sores in the groins, the consequences of buboes, where no chancre preceded, (at least as far as it was possible to ascertain that point, and in one case where there had been no connection for a year,) although I tried every method that I could think of, and upon using mercury, the sores have rapidly and permanently healed. Much mischief arises from laying down general unalterable rules of practice, as well as from the incorrect supposition, that if mercury heals a sore, such wound must be syphilitic. I proceed however after this long digression, which I could not well avoid, to the consideration of those appearances in the groin which may be mistaken for venereal enlargement of the inguinal glands.

The glands in the groin are, in common with other glands, liable to be enlarged from various causes. Where gonorrhœa really exists, if by injections the discharge be suddenly checked, the inguinal glands shall become tender and swollen, and this tenderness and swelling shall subside on the return or the reproduction of the discharge. The mind of a man who has had an illicit connection, is alive to every sensation in these parts; he is constantly feeling for an enlargement, and should the woman with whom he has had intercourse, happen to labour under some of the discharges which I have before mentioned, he may have some irritation in the urethra; this, with a slight degree of tenderness, and perhaps of swelling produced in the groin by pressure and examination with the fingers, will convince him that he has been infected, although his fears have in reality no foundation. Mercury rubbed in for the cure of chancre may cause enlargement of the inguinal glands; but as here the chancre is in itself a sufficient reason for employing mercury, it is of no great importance to distinguish between such a swelling and a common bubo*. Bubo in the groin may succeed to some of the sores on the genitals which have been described when treating of ulcers on those parts; here we must look to the nature and character of such sore, and if we find that the sore was not chancre, it is fair to presume that the bubo is not syphilitic.

A swelling of the glands of the groin may arise from the use of bougies, from stricture, or other disease of the urethra, from irritation after connection produced by intercourse with a woman who has vaginal discharge (other than that of gonorrhœa), from disease of the testis, from disease of the penis, from ulceration of the integuments, from piles†, from common inflammation produced by blows, strains or other causes, from sores situated on the inside or top of the foot or on the fore part of the leg or thigh in the course of the vena saphena, or on the buttocks or inner part of the ilium; from white swelling of the knee, or from disease of the hip-joint, from œdema of the lower extremity, from true elephantiasis, and from the modern elephantiasis or Barbadoes swelled leg. In women, the glands may also be enlarged from diseases of the organs of generation, of the vagina and of the uterus, whether discharges, ulcerations, or some other affection (excluding of course from our present consideration, syphilitic affections). These glands may also be the seat of critical abscesses, or they may become enlarged from scrofula. The only kind of venereal affection for which an enlargement of the inguinal glands proceeding from any of the causes just enumerated, can well be mistaken, is primary bubo, or bubo unaccompanied with chancre or gonorrhœa‡. In looking over the list of cases in which the glands of the groin may become enlarged, we shall find that there are but few of them likely to be mistaken for bubo from venereal taint, if we use but common observation. We must remember the possible causes of swelling of the glands of the groin, and this will lead us to investigate the case, and to ascertain whether any of those causes exist, before we pronounce on the nature of the enlargement. A primary bubo, although more frequently occurring than many will allow, is still much more rare than bubo preceded by chancre or by gonorrhœa, or by both. Where there is no apparent cause of the enlargement of these glands, and where we suspect the swelling to be venereal, we shall be assisted in our diagnosis by recollecting, that, in bubo from syphilis, the swelling usually proceeds uniformly and quickly from its first appearance through the inflammatory stage to suppuration, if left to itself; that the swelling is mostly confined to one gland on the side affected; that there is only one abscess which is general throughout the gland, and that the tenderness is very acute and the integuments are highly inflamed. In scrofulous enlargement of the glands of the groin, the progress both of enlargement and of suppuration is more slow, particularly the latter; the suppuration is unequal, the matter formed is seldom true pus, but thick and curdled; the extent of the abscess being often considerably greater than that in bubo from syphilis, the skin covering it of a pale red, mottled with white, the pain more obtuse and dull. Swelling of the glands in the groin may take place without any evident cause; it may be accompanied with fever and other constitutional symptoms, several glands may be attacked, the swelling hard, slow in its increase, generally enlarging to a small extent, and being attended with but little pain.

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* It is necessary however to recollect, that swelling of the inguinal glands may be caused by mercurial friction, lest we should be induced to exhibit more mercury when enough has been already used.

† Cruikshanks.

‡ Where a discharge happens to attend some of these cases of enlargement of the glands, the case may be considered as that of bubo and gonorrhœa. For distinguishing the discharge from gonorrhœa, I must refer to what I have said when treating of discharge.

When a bubo in the groin has burst and has assumed the appearance of an ulcer, it is more difficult to determine upon its nature. The ulcer produced by bubo from syphilis is painful, not shewing any disposition to heal, but, on the contrary, inclined to spread. The character of the sore may depend much upon the habit of the patient. But although we are satisfied that a bubo which has ulcerated may originally have been syphilitic, we must always bear in mind that the sore may remain, and its nature be entirely changed. The bubo has been suppurated, and has burst or been opened; mercury may have been employed with advantage. But there is a point, which being passed, the mercury becomes as prejudicial as it before was serviceable: by pushing the exhibition of it to an improper length, the venereal sore may be converted into a mercurial sore; the ulcer, instead of the whitish appearance which characterizes the healing of a sore under mercury, shall put on a fiery red hue; and, if mercury still be persisted in, or if the habit be saturated and enfeebled, more especially if the patient breathe the confined miasma of a mercurial ward, such a sore shall spread from ilium to ilium, destroying all before it. The edges of this sore are jagged and irregular, as if they had been eaten away by caterpillars, the cavity extending beyond the edges which overhang the ulcer. Such a case is far more dreadful and dangerous than the worst case of syphilitic ulceration. One part of the mercurial sore may heal, whilst in another part great havoc is made.

Sometimes, after the venereal virus has been destroyed, the sore shall assume an indolent, or what is termed a scrofulous character; in which case it is pale, indolent, and gives but little pain.

An enlargement of the inguinal glands resulting from any of the causes I have named, is not the only affection that may be mistaken for venereal bubo. In the true elephantiasis, improperly called lepra arabum, there is a firm indolent swelling at the upper and anterior part of the thigh, without discolouration, pain, or disposition to suppuration, easily moveable, usually much larger than the venereal bubo, and lower in its situation*. These characters will distinguish such an affection from enlargement of the inguinal glands caused by syphilis. Psoas or lumbar abscess pointing at the upper part of the thigh; hernia, both inguinal and femoral; aneurism; a testicle which has not descended into the scrotum; encysted hydrocele of the spermatic chord; scirrhous ovary: all of these may by a hasty observer be mistaken for an enlarged gland, and consequently for venereal bubo.

Psoas abscess may be distinguished by the symptoms attendant on that disease, by dull heavy pain in the loins under the kidney, by the shiverings attendant upon the formation of matter, by the febrile or hectic symptoms, by pressing on the tumour and desiring the patient to cough, by making him lie down and then try to get up, by desiring him to rotate the thigh, which action will give him pain, while no pain is felt if another person rotate it for him, and by the tumour being flaccid when the patient lies down. Hernia is marked by its sudden appearance; its want of discolouration; by the concomitant sickness and obstruction of the bowels, and by febrile or other symptoms. In Aneurism the situation of the tumour, its gradual formation in most cases, the pulsation which is more or less distinct, the receding of the tumour which sometimes succeeds to pressure, the numbness and pallor of the limb, all these symptoms will distinguish aneurism from enlargement of a gland. The peculiar sensation produced by pressure on the testicle, and the want of it in the scrotum, sufficiently mark that cause of tumour in the groin. In encysted hydrocele of the spermatic chord, the tumour feels like a distended bladder, and appears transparent if examined by a strong light; and its situation may sometimes be made to change, from the fluid receding on pressure. A scirrhous ovary of a large size in a thin person may sometimes be ascertained by examination through the parietes of the abdomen. In all the cases just enumerated, we shall not only be able to form our diagnosis from the symptoms attendant upon each disease, but also from the want of the appearances belonging to syphilitic bubo.

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* Adams on Morbid Poisons.

Of Warts on the Organs of Generation.

Warty excrescences are very frequent consequences of impure coition: they are met with on the glans penis, on the frænum, and the prepuce, both external and internal; and in women, on all parts of the external organs, in the vestibulum, and on the groins or the perineum. I know of no affections likely to be mistaken for these warts, unless it be chancre which has healed into a tubercle, and a cancerous wart. The first of these can only be mistaken for an incipient wart; but the great hardness which accompanies the tubercle will, with the history of its origin, prevent mistake. It is important to make the distinction, since the patient is not safe if hardness remain after the healing of a chancre. The risk of mistaking a cancerous wart is much greater. I think that I cannot do better than copy the remarks of Mr. Pearson on this subject: "The basis of a venereal wart is smaller than its surface, the roots have rather a superficial attachment, and if the intermediate parts can be seen, they commonly retain their natural appearance. Cancerous excrescences have a broad base, often more extensive than their superficies; they seem to germinate deeply from within, or rather to be a continuation of the substance of the part; and in their progressive state the contiguous surface has a morbid appearance. When a venereal wart is removed by the knife, and a very small portion of the substance of the part below the surface has been taken away along with it, the appearance of the wound is similar to that of a wound made in a healthy part; but where the wart is cancerous, the alteration of structure descends much deeper. The increased bulk of the penis, when the complaint proceeds from a venereal taint, is evidently owing to the number and magnitude of the excrescences; and as soon as these superfluous productions are removed, the part is restored to its natural condition; but the cancer is accompanied with an alteration of the internal structure, and addition of substance to the part itself; so that no partial extirpation of the morbid appearances is followed by the least benefit to the patient*."

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* Pearson on Cancer.

Of Affections of the Testis which may be mistaken for Venereal Affections of that Gland.

There are two diseases of the testicle resulting from venereal infection; the one a primary, the other a secondary affection. The first is connected with gonorrhœa, and is termed hernia humoralis, or, more correctly, phlegmone testis; the second occurs together with the cutaneous affection, and is called venereal sarcocele.

Enlargement of the testes may also arise from cynanche parotidæa, from the irritation of stone in the bladder, from the use of bougies, from stricture, gout, fever, diseased prostate, onanism, affections of the kidney, from inflammation produced by any cause, by blows, cold, the operation of lithotomy, hardened fæces, from scirrhus, scrofula, hydatids, from effusion of blood, and from a varicose state of the vessels. Hydrocele and hernia may be mistaken for disease of the testicle.

Attention to all the circumstances of the case will, in many or most of the cases of enlargement of the testes, as well as in the cases resembling enlargement of that gland, enable the practitioner at once to decide upon the nature of the case, as far at least as regards the suspicion of its being venereal. I will, however, notice some of the most striking characters of the different affections.

It may seem hardly necessary to mention the symptoms attendant upon phlegmone testis, as that complaint will be sufficiently marked by its connection with gonorrhœa. It comes on when the discharge has been suddenly checked by injections or other means, by cold, intemperance, violent exercise, or the like. It sometimes occurs at the decline of a mild form of gonorrhœa. Both the testes are seldom affected at once, although they may be alternately. The affection is preceded by throbbing and pain in the testes; the disease extends downwards, not upwards; the pain is most acute at first; there is a burning pain in the chord; pain in the loins and in the lower bowels; general uneasiness of the abdomen and thighs, with fever and other inflammatory symptoms. This affection generally subsides on the return or re-production of the discharge.

The venereal sarcocele is a secondary symptom, not commonly met with. Both the testes may be affected. The swelling, which is considerable, is sometimes hard, generally soft, puffy, and uniform; the figure of the testicle not much altered; the chord not much affected, though it may be thickened; the testicle bears handling; there is little pain, and that little is of a dull kind; the disease has seldom any tendency to suppuration; but should that take place, the discharge will be purulent. The scrotum is often affected with tubercles or small ulcers, and there is most probably present a cutaneous affection.

As to swelling of the testes in cynanche parotidæa, I may remark, in the first place, that this is a disorder occurring chiefly at an early period of life; the enlargement of the testes is for the most part connected with the diminution of the swelling of the parotid gland; the enlargement is generally slight, elastic, sometimes large, hard, and painful. This affection resembles more phlegmone testis than venereal sarcocele, for which last it can hardly be mistaken; and the absence of gonorrhœa, with the presence of the swollen parotid gland, will distinguish it from the former of those venereal enlargements.

Enlargement of the testis, arising from irritation in the urinary passage, is more commonly the effect of stricture than of any other cause. Where the case is not clearly marked, let it be recollected, that this and the other affections above mentioned may be the causes of such swelling, and we shall be led to make that examination which will lead to the discovery of the cause.

Inflammation of the testis, produced by common causes, will be distinguished by the knowledge that those causes have led to it; it will be distinguished from phlegmone testis by its not being preceded by gonorrhœa; and from venereal sarcocele by recollecting what has been said of that affection, as well as by the want of accompanying secondary venereal symptoms.

Attention to the history, progress, and appearance of a disease of the testicle really scirrhous, will generally enable us to distinguish it readily from either of those affections which I have described as resulting from venereal infection. It is hardly possible to conceive that scirrhus of the testis should be mistaken for phlegmone testis. Scirrhus attacking the testis is slow in its progress; the swelling is hard, and heavy in proportion to its bulk; it is often irregular, generally so at an advanced stage; the skin of the scrotum (unless the disease have extended to it) is of a natural colour; the pain lancinating and severe; the chord becomes unequal, hard, and tender; the constitution is much affected at a late period; the disease in its progress ulcerates, discharging a thin bloody sanies, and the sore assumes that character which is known by the name cancer.

A violent inflammation of the testis may produce alterration of structure in the gland, and the testis may remain enlarged, unequal, and tender, long after the decline of the inflammation; the epididymis may continue hard and large for many months. The testes may suppurate imperfectly, the chord may become enlarged, and pain may be felt in the back; but the health of the patient is not affected, and the symptoms are mild to the termination of the complaint*.

In scrofulous enlargement of the testis, the symptoms are generally mild; the progress of the complaint slow; the pain generally slight; the constitution not much affected; the scrotum often discoloured; the swelling more or less soft; examination and pressure are borne with comparative ease; the symptoms continue long stationary; there are present, perhaps, other symptoms of scrofula in the habit, or on other parts of the body; and there is a want of the symptoms attendant upon the enlargements produced by venereal infection. The attack of scrofula may, however, seize the testicle suddenly, enlarge its bulk considerably, producing great pain, discolouration, and constitutional disorder, and irritating phlegmone testis; from which it will, however, be distinguished by the absence of gonorrhœa.

Hydrocele is a pyramidal tumour (the apex of which is upwards), beginning at the lower part of the scrotum, and proceeding upwards. The tumour resists pressure; but it is comparatively soft at an early stage, at which time it is transparent. The testicle, instead of constituting the tumour, forms a part of the *parietes* of the swelling at the lower and back part. There is an absence of pain and of constitutional disorder. Although, at an advanced stage, this disease may be confounded with pulpy testicle, or some other disease of the testicle, yet, if attention be paid to what has been said, it will be impossible to confound hydrocele with phlegmone testis, and scarcely possible to mistake it for venereal sarcocele, though it resembles this more closely than scirrhous testicle does.

Hæmatocele may be confounded with hydrocele; but it is unnecessary to offer any rules for distinguishing it from a venereal affection of the testis. The same may be said of varicocele. Nor will the practitioner require any rules to be offered him to enable him to distinguish scrotal hernia from either phlegmone testis or venereal sarcocele.

Of Ulcerations in the Fauces which may be mistaken for Syphilitic Ulcers.

I may first premise, that, to a careless and uninformed observer, particularly to a patient whose fears magnify every suspicious appearance, and who looks into his throat in a looking glass, the natural inequalities and openings of the tonsils may be mistaken for ulceration. When ulceration of the tonsils arises from syphilis, it is, generally speaking, a secondary symptom—almost always so—but we every now and then meet with it in a case where there is every reason to suppose that the ulceration of these glands is the first indication of the disease; in which case it occurs at a later period after infection than when primary symptoms have preceded it. The venereal sore throat occurs at different periods after the first contamination; sooner when the chancre or bubo have discharged but little and have been soon healed, than when they have remained long open and have discharged much; sooner too where mercury has been given improperly, than where the disease has been left to itself; and generally sooner when no affection of the inguinal glands has taken place from the primary sore. Exposure to cold, and certain peculiarities of constitution, may hasten the appearance of the disease in the throat. The tonsils are more usually affected than the uvula, or the velum palati, though the affection may spread to these from the tonsils. The ulcer of the tonsils is an excavation, as if a piece were scooped out; the sore has an uneven, jagged, foul appearance; with an erysipelatous redness, on a hard, elevated, defined border; the ulcer is commonly covered with a whitish or brown slough; it is progressive, and, like the rest of the syphilitic symptoms, it is not curable by the powers of the constitution. There is usually not much pain, nor much enlargement, attendant on this form of the disease; in other respects the sensations do not materially differ from those produced by ulceration of the throat proceeding from other causes.

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* Pearson on Cancer.

Persons who have had primary symptoms, and who have either pushed the use of mercury very far, or have very irritable habits, easily acted upon by that remedy, and are still under the influence of it, are very often alarmed at the appearance of ulceration of the throat, which, not only they, but their medical attendants also, may consider as syphilitic, when, in fact, it is the effects of mercury; and being produced by that mineral, it is also kept up and exasperated by the continued use of it. This kind of ulceration is often very like the venereal sore-throat, from which it is very important to distinguish it.

In ulceration of the tonsils produced by mercury, there is a fulness and enlargement of the tonsils, and the ulceration is generally more extensive and less defined. The sore is white, and aphthous spots may be present. This white appearance may extend over the fauces, and it marks the character of the attack. There are present, perhaps, also, ulceration of the inside of the cheeks and tongue, fulness and ulceration of the gums, fœtid breath, with stiffness of the jaws, and general fulness of the salivary glands. If the ulceration of the tonsils occur whilst the patient is much under the influence of mercury, we shall not only be enabled to decide upon the nature of the ulceration from concomitant circumstances and appearances, but we may fairly argue that it is very improbable that syphilis should make progress under a course of mercury, the effects of which are so apparent. If the ulceration comes on some little time after mercury has been discontinued, we may be more apt to be misled: we must then examine closely into all the circumstances of the case; and from the history, progress, and appearance of the case, form our opinions of the nature of the sore. Mr. Bell says, that in true venereal ulcer of the throat, after the first irritation is over, the application of caustic produces a clean healing and improved appearance of the sore; whilst, in sores in the throat produced by mercury, caustic not only gives great pain at first, but the sores retain the same appearance, however frequently the caustic is applied.

Ulceration of the tonsils may be the consequence of common inflammation, or cynanche tonsillaris. But this may be distinguished by the synochal pyrexia, and by the local inflammation and redness, and by the suppuration and abscess which precede the ulceration. We shall be assisted also by noticing that the surface of the sore is more florid and clean, more limited and less inclined to spread, than the syphilitic ulcer. The ulceration in cynanche tonsillaris begins in the substance of the gland; the venereal ulceration proceeds from the surface to the centre. The pain is more acute in cynanche tonsillaris.

Cynanche maligna may be mistaken in some of its stages for venereal sore-throat; from which, however, it may easily be distinguished. The disease makes its attack in different ways. Pyrexial symptoms are first noticed; and there are also present great muscular debility, or pains in the back and limbs, with general languor, which symptoms mark the tendency that the febrile symptoms have to assume a typhoid type. Attendant on the ulceration of the throat, several white specks or aphthæ are seen scattered over the velum pendulum palati and the posterior fauces. The ulcer frequently is pale, jagged, and unequal, spreading rapidly, sometimes assuming the appearance of a gangrenous sore—sometimes it is deep, with livid edges and ash-coloured slough. Not only the throat and neighbouring soft parts are affected, but in a little time the inside of the cheeks may become excoriated and ulcerated, the inflammation highly florid, and the parts bleeding upon being touched. Whatever the character of the febrile symptoms may have been, you will now have (supposing the disease to be left to itself, or to resist the remedies made use of) typhus fever, with weak pulse, dark brown furred tongue, offensive breath, and the whole catalogue of symptoms attendant on an advanced case of that form of fever. The skin is perhaps covered with a scarlet eruption. This is an extreme case; but in milder forms, however close the resemblance of the ulcer may be to that produced by syphilis, a few days will clear up all doubts. Attention to what has been said of the two different affections, will, together with the history of the case, guard the practitioner against mistakes; he must remember, that, where he still doubts, he is to treat the case as cynanche maligna, until the accession of new symptoms and new appearances place the case beyond all doubt.

In scarlatina anginosa the connection of the ulceration of the throat, with the efflorescence on the skin, sufficiently marks the disease.

When the tonsils are attacked by scrofula, the gland becomes enlarged, and there is often an appearance of ulceration, with an ash-coloured border and slough; when in reality there is no ulceration, the deception being produced by the throwing out of coagulable lymph, which may be washed or wiped off. Here there is a want of the appearances attendant on venereal sore-throat—a pale, indolent state of parts, connected too, perhaps, with other scrofulous symptoms.

Cancerous ulceration of the throat is happily not very common. Such ulcers are situated mostly at the root of the tongue. The history of the case, its progress, the fungated appearance of the sore, the lancinating pain, the presence of hard, strong enlargements of the glands of the neck, and behind the angle of the jaw; all these are circumstances sufficiently strong to distinguish this sore from venereal ulceration.

Aphthæ covering the soft parts of the throat may occur as a solitary disease or epidemic; without any marked symptoms preceding or accompanying them, excepting, perhaps, debility. They may remain long stationary, or a small slough may separate, and the ulcer left may spread, perforating the velum palati. As it is possible that a case of this kind may be mistaken for a syphilitic affection, I have selected a case which proved very obstinate, but where the indolent character of the affection was strongly marked. In this case there was not, however, the slightest suspicion in the minds of the patient, or of his attendants, that there was any venereal taint; indeed the character of the patient was above suspicion.

CASE.

Thomas M——n, Esq., a very respectable middle aged man, of very regular habits, came under my care in May 1809, having an ulceration of the velum palati. He had applied blisters externally, and had taken bark for a fortnight previous to my seeing him. There was a pale ulcer of the size of a finger-nail, situated at the commencement of the soft palate which it had perforated, allowing the blunt end of a probe to pass through the perforation. He suffered scarcely any pain; but considerable uneasiness whenever he swallowed liquids, from a part of the fluid getting into the posterior nostril, through the hole in the soft palate. He was directed to increase the quantity of bark, and to use gargles. The progress of ulceration was very slow; and, for a time, seemed to be arrested. In a short time a fissure appeared, extending longitudinally to the extremity of the velum palati. Muriate of antimony, nitrate of silver, and the mineral acids, were successively added to the gargles, and guaiacum to the bark draughts; still no ground was gained. In the beginning of July the ulcer shewed a tendency to spread. I omitted all applications, except a gargle of myrrh and honey, and gave him arsenic in the form of Dr. Fowler's solution. In a few days the sore put on a more favourable appearance; there had been two or three fresh specks of ulceration when he began this plan; these now healed, and the original ulcer gave him no inconvenience. He continued taking the arsenic till the 27th of July, when he was attacked with gout in each foot. The ulcer being now healed, the arsenic was omitted. For several succeeding months, specks of ulceration continued to appear; first, a small white spot was seen; this gradually enlarged to the size of a silver penny, when a whitish slough came away, leaving a pale ulcer. These subsequent ulcers were on the palatum durum. Bark and guaiacum, with volatile alkali, were given for several months with little variation. The healing of one set of sores was followed by the appearance of another set. At last, on the 5th of April 1810, one twenty-fourth part of a grain of the hydrargyrus muriatus was added to his bark draught and given three times a day; the dose was gradually increased to one-twelfth of a grain. This plan was continued until the 30th of the same month. In this short space of time, all the ulcers were healed; and as the gums were slightly affected, the mercury was discontinued. A considerable degree of hoarseness continued for some time, from what cause I know not; but this gradually went off. This gentleman has continued ever since quite well.

I trust that I shall be excused for inserting this long case, as I think it may serve to describe an affection which might possibly have been confounded with a venereal affection. It will also serve to illustrate what I have before observed, namely, that although mercury may cure an ulcer, it is no proof that the ulcer was venereal. I have seen ulceration, produced by common inflammation, very obstinate; and it has yielded at last to small doses of calomel.

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The disease, known in Scotland by the name of Sibbens or Sivvens, attacks the throat, destroying the tonsils, uvula, and soft parts. This disease usually makes its primary attack on the lips and mouth, it being supposed to be contracted by smoaking a pipe, or by drinking out of a vessel which an infected person has used. The ulcer of sibbens is a clean phagedænic sore, unattended with the callous base and edge which mark the primary syphilitic sore*. Ulceration of the tonsils produced by this disease, will be distinguished from venereal sore-throat in the few situations where it is probable that the two diseases may be confounded by the history of the case, by the knowledge that the ulceration of the throat was the first symptom, or that it was preceded by soreness of the lips, or of the inside of the cheeks, and by recollecting the characters of syphililic ulceration of the throat.

No stress can be laid on what I say of a disease which I know nothing of but from books. My knowledge of yaws is derived from the same source. This disease, which seems to be nearly allied to the preceding disease, sometimes attacks the throat with ulcerations, closely resembling syphilitic ulceration. In this quarter of the globe we are not likely to meet with the disease; but should a case present itself, we shall be led to a suspicion of the nature of the case, by the history of its commencement and progress, by the knowledge that the patient has recently been in countries where the yaws prevail, and by the character of the attendant eruption.

In the disease known in Norway by the name *Radesyge*, the throat is often the first seat of the disease, which may erode all the soft parts. But the want of a primary affection of the genitals; the spontaneous healing of the ulcer in some cases; and its connection with ulceration of the cheeks or lips; the apparent health of the constitution; together with the knowledge of those situations in which the disease is prevalent; these appear to be the chief rules for distinguishing this disease from syphilis†.

Besides the cases of ulceration of the fauces above mentioned, as liable to be confounded with syphilis, there are others with the nature of which we are less acquainted. Some of these cases originated perhaps from sores on the genital organs and inguinal abscesses, which sores and buboes were not syphilitic; in others again, there may have been no preceding affection of the genitals. Such are cases termed pseudo-syphilitic. We shall not, perhaps, have any light thrown upon the case by any description of the primary affections, (where any have occurred,) which the patient can give; and we shall be left to form our opinion of the case by the information we can collect by the progress of the disease while under our care. If we are not assisted by the knowledge of previous symptoms, or by present appearances, or by the mode of accession and progress of the complaint, still the knowledge that mercury has not proved of service in the treatment of symptoms which preceded the ulceration of the throat, and any anomalous appearance that the throat may exhibit, or any want of regularity in the progress of the disease; all these, with the knowledge that it is possible that an ulcer may not be syphilitic, however closely it may resemble it, will at least lead us to be slow in deciding upon the nature of the case. Recollecting that a syphilitic ulcer is progressive, not yielding to the powers of the constitution, we must wait until the progress of the ulceration makes it necessary that we should try the effects of mercury; if the sore assume a better appearance under mercury, we must persevere in the use of it; and if the disease is got rid of, it is of little consequence to the practitioner at least, whether it be considered as syphilitic or not. I may just observe, that if we perceive the sore partially heals before we employ mercury, the case must not be considered as syphilitic.

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* Adams on Morbid Poisons.

† I take the symptoms and character of this complaint from Dr. Böcker.—*Edinburgh Medical and Surgical Journal*, vol. v.

(To be continued.)

II.

Observations on the Function and some particular States of the Organ of Hearing; with a Description of a Newly-invented Instrument for Puncturing the Membrana Tympani. By JACOB VALE ASBURY, Member of the Royal College of Surgeons, and Licentiate of the Society of Apothecaries, in London.

THE ear is an organ so ingeniously adapted to the purposes for which it is designed, and contributes so largely to our most exquisite and refined enjoyments, that it presents, to such as are disposed to examine its minute mechanism, a most intersting subject of investigation. The distressing consequences which result from a diminution or loss of its faculty, place those so circumstanced out of the reach of much mental intercourse, and

> "Wisdom at one entrance quite shut out*,"

renders the unhappy object perhaps more solitary than he who has sustained the loss of sight. Therefore, when the functions of the ear are impaired, whatever means can be suggested, in order to remove this morbid state, and to restore its lost energy, are of the utmost importance both on a physical and moral consideration.

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* MILTON.

When we reflect on the œconomy of this organ, and the multifarious parts of which it is composed, the diseases affecting it do not appear so numerous as might, *a priori*, have been expected; yet, the obscure situation of the most essential parts, and the difficulty attending the removal of any morbid affection of them, render it a subject worthy of the deepest attention.

The effects of obstruction of the eustachian tubes, and the most simple and easy mode of removing it, will be the principal subject of which I mean to treat. These canals, which lead from the fauces to the tympanum, must remain pervious; so that the membrana tympani may the better receive the pulses of sound; which, giving mobility to the air within, are thence transmitted to the *membrana fenestræ ovalis;* and thence to the portio mollis. If the air in the cavitas tympani be confined, the action of this membrane must be so limited, that the sonorous rays will produce no effect on it; neither under these circumstances can there be any motion given to the confined air; consequently deafness must ensue. This is daily manifested in those who are much exposed to cold; which, producing an increased secretion from the mucous membrane of the *fauces*, the eustachian tubes become obstructed; and when this secretion is restored to a healthy condition, the patient's hearing returns. In those complaints, however, such as *scarlatina*, *cynanche tonsillaris*, *&c.* where inflammation sometimes extends to the organs of hearing, the tubes become permanently obstructed by the secretion of coagulable lymph; and finally by adhesions, which obliterate the passages. In this case it is necessary to make an opening into the cavitas tympani, to answer the purpose of the eustachian tube, and this can only be done with propriety through the membrana tympani.

This operation has been successfully performed; but it should be observed, that the success attending it is limited; and, that in a short time after the operation, the patient has, in consequence of the opening closing, experienced the same degree of deafness. This has unjustly brought the operation into disrepute, and merely because due attention has not been paid to all the circumstances of the case.

The want of success, I conceive, may result from two causes; either from the opening not being made sufficiently large to remain pervious, or from the inflammation produced by the injury which the parts have sustained in the operation. That these causes may depend on the kind of instrument which is employed, I am much disposed to believe; and for the following reasons: If the extremity of the instrument be small, as is the case with the trocar used for this purpose, the opening which it makes must be small also; and hence there is the greater probability that it will again close; if, to enlarge the opening, the instrument be urged forward, then there is every chance of its wounding the opposite side of the cavitas tympani, and occasioning inflammation; which, by extending to the membrana tympani, may produce a thickening of it, and closure of the aperture. There are cases recorded, and others with which I am personally acquainted, that justify me in this opinion. If the eustachian tubes are obstructed, without organic defect of the internal structure of the parts, or constitutional affection of the individual, and yet the operation fails, in what other way can the failure of it be explained? Either the opening must be too small, or such an injury be done to the parts as to excite inflammation; and which ever of these happen, the operation proves an additional evil to the disease. I have punctured the membrana tympani with a triangular probe*. It gives temporary relief; but, in the course of a week, the hearing is often as defective as before the operation. This of course can be accounted for only by the closing of the aperture.

From these considerations, I had an instrument made by Mr. Blackwell, of Bedford Court, Covent Garden; the cutting part of which, is an equilateral triangle, one eighth of an inch in each direction, and resting on the plain surface of a bisected bulb, which has, proceeding from it, an iron wire, a line in diameter, terminating in a small octagonal handle. The point of this instrument can only enter the tympanum to the eighth of an inch, as it is then arrested in its further progress by the bulb. The base of the triangle is sufficiently large to make an opening in the membrana tympani, that will admit the softened extremity of a small bougie, which may occasionally be introduced to keep open the aperture, when this precaution is necessary. The diameter of the tympanum is about double the length of the point of the instrument; therefore no injury can possibly ensue to the opposite side; and as the membrana tympani itself is supplied only with very few vessels, the occurrence of inflammation from the perforation with this instrument must be extremely rare. The appearance of blood on the instrument after the operation, will show whether it has penetrated too far.

The triangle is fixed in the radius of the bisected bulb, for the purpose of avoiding the manubrium mallei and chorda tympani. The former of which is attached to the upper part of the membrana tympani; the latter crosses it transversely, and may generally be seen in the form of a white cord at the bottom of the meatus. Therefore if the instrument be introduced with the cutting angle in the lowest direction, it will enter that part of the membrane which is beneath both of them where there is nothing to injure; and the flat surface above the angle will come against the chorda tympani. There are two white spots in the handle corresponding to that part of the instrument which in operating must be kept uppermost. So little is the chorda tympani concerned in the function of hearing, that a wound or division of it is regarded by some as of no consequence; but it appears to me probable, that injuring it may diminish the sensibility of the parts exterior to the labyrinth. I am by no means inclined to argue this point; but it is evident that no good can arise from disturbing this nerve; therefore I altogether avoid it.

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* Mr. Brookes, the celebrated anatomist, to whom I am much indebted for my anatomical knowledge, inculcates the puncturing with this probe, provided a more convenient instrument is not at hand. He expressly states, that no harm can arise from simply puncturing the *membrana tympani.*

It has been suggested, that the instrument would answer better, if curved, so as to correspond to the obliquity of the meatus auditorius externus. But, although the passage takes a course at first upward and forward, then making rather a sudden turn downward and backward, yet it proceeds afterwards horizontally to the membrana tympani. The obliquity therefore may be removed by taking the pinna of the ear between the thumb and finger of the left hand, and drawing it a little backward and upward; then the instrument being in the right hand, observing that the two white spots in the handle are directed upwards, it may be introduced with great ease. It is right to bear in mind also, that the membrana tympani is not placed horizontally at the bottom of the meatus; but that it takes an oblique direction, so much so, that it forms a very acute angle at the lower, and an equally obtuse angle at the upper side of the boney external meatus; to which it is at first nearly parallel. If, therefore, the instrument be curved, so as to correspond to the obliquity of the passage, with its convexity upward, while the concavity is applied to the convexity of the lower side of the meatus, the cutting angle will not only enter the lowest part of the membrane, but it will also wound the bottom of the cavitas tympani. In this position indeed the opening of the tympanum will be quite uncertain, for the instrument may enter at the acute angle formed by the union of the membrana tympani with the lower side of the meatus externus.

A short time since I had a case of deafness resulting from an attack of scarlet fever in 1802, which had been attended with violent inflammation of the tonsils and adjacent parts.

The patient could not hear unless she was spoken to in a loud tone of voice. As the constitution was perfectly good, I immediately punctured the membrana tympani. I was instantly apprized of success, by the patient declaring with a strong emotion of joy, that she could "hear the clock tick;" that her "ears cracked;" afterwards, succeeded a confused noise, and sounds were distinguished that she had not heard since the scarlet fever. Her hearing soon became exceedingly painful. In a short time, by putting a small piece of wool into each meatus, the sensibility of the organ diminished, and it adapted itself to the new impressions of sound; and the patient finally declared, "I can hear almost as well as I could at fifteen." The same success attended a similar operation, where one of the eustachian tubes was obstructed.

Another young lady had laboured under a defect of hearing for five years. It had declined gradually till she was incapable of hearing a conversation in any tone of voice. There was a defective secretion of cerumen. From examination of the state of the eustachian tubes, I found that by closing the mouth and nose, and then attempting to expire, she could not distinguish the least noise in the ears; consequently I concluded, that they were obstructed, although, from the gradual approach of the deafness, without any previous affection of the fauces, I had some doubts. But as no harm could arise, I punctured the membrana tympani; and I regret to add, that the operation did not succeed. This failure induced me more accurately to examine the state of the eustachian tubes; and on the patient clearly understanding, which she did not before, what I meant by a sensation of swelling in the ears when forcibly expiring, she was sensible upon further trial, of such an effect. This, therefore, proved a case in which the operation could not be expected to succeed, because the air within the cavitas tympani was free. This patient had decidedly a scrofulous habit. I immediately adopted a suitable mode of treatment, from which she derived considerable advantage. She took a calomel pill and saline purgative every seventh day; and in the interval, mineral tonics. I ordered the ears to be fumigated three times a day, with strong camphorated spirit*; and stimulated night and morning by a liniment composed of ceratum resinæ, oleum olivæ, and a small portion of tinctura lyttæ, and spiritus ammoniæ compositus applied with a camel's hair pencil. By these means I hoped to restore the secretion of wax. In this regimen she persevered as long as I thought requisite; and she now enjoys conversation in the society of her friends. By occasionally varying the internal and external remedies, she is still sensible of improvement.

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* This was proposed to me by my ingenious friend Mr. Edward Turner Bennett, who also suggested Mudge's inhaler as a fit apparatus to be used in this case. I procured one, and set it upon an iron stand four inches high; then filling it half full of hot water, I added two tea spoonfuls of strong camphorated spirit, and placed a spirit-lamp underneath. The vapour rose through the flexible tube; the extremity of which was then applied to the external meatus.

There are numerous cases on record which directly prove, that the membrana tympani is not essentially necessary to the faculty of distinguishing sound; therefore we may conclude, that it can be punctured without detriment. Mr. Astley Cooper has noticed an instance, in which the membrana tympani of one ear was totally destroyed by disease, and that of the other nearly so; the deafness appeared inconsiderable; and the hearing in the ear, in which no trace of the membrane could be found, was distinct. In similar cases, the ear is sometimes acutely sensible of musical tones, and accurately judges of time. Some persons are capable of driving smoak from the mouth through the meatus externus*; and in them there is great accuracy of hearing. In this instance, the opening in the membrana tympani must be formed artificially, and most likely by the efforts of the individual; as the most exact researches, I believe, have discovered no such communication existing in the natural structure of the parts. But a natural foramen is particularly described by Professor Rivinus, of Leipsic, whose name it long bore. This foramen, however, is not admitted by modern anatomists to exist. I have repeatedly found this opening in cats and some other animals; but I never could trace the smallest appearance of it in man.

If we inquire into the use of the ossicula in the cavitas tympani, they also are by no means necessary for distinguishing sound; since in cases where there has been inflammation and suppuration of the cavity destroying the membrana tympani, so that the bones have escaped, the sense of hearing has still remained. But in these cases, the membrana fenestræ ovalis must remain entire, otherwise the aqueous contents of the labyrinth would escape; whereby all power of hearing is completely destroyed. If, when the parts external to the labyrinth are lost, sounds can be distinguished, it follows that the *ossicula* have no share in transmitting the sonorous vibrations, the contrary of which has been generally believed, and that the air in the cavitas tympani gives the impulse of sound to the fluid of the labyrinth. Otherwise how is it that an obstruction of the eustachian canals diminishes, in so great a degree, the faculty of the organ? The air thus confined cannot prevent sound passing through the medium of bone. The ossicula themselves, therefore, are to be considered as secondary agents, designed to enable the impulse of sound, thus transmitted, to act with more correctness and accuracy on the membranes to which they are connected. The membrana tympani, being furnished with a contractile and relaxing power, its use, is, I think, analagous with the iris, to the sight, by regulating the intensity of the violent impulses of sound, and increasing the power of the weak. When our attention is directed to a low tone, the membrane is rendered tense; but the opposite state takes place when loud tones are transmitted to the organ. Considering, therefore, the use of the parts severally, which are external to the labyrinth, and the degree of deafness from the want of each separately or conjointly, it will be found that, where the eustachian tubes are obstructed, the power of hearing will be more diminished than where a part of the membrana tympani is destroyed. And sometimes it will be equal, if not greater, than that which is occasioned by the loss of the whole membrane and ossicula. In every case of this kind, therefore, it will be adviseable to open the tympanum, which may be done in the manner I have directed.

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* This phenomenon, I am informed, is very general among the North American Indians.

Hence it appears that, provided the rays of sound are conveyed to the membrana fenestræ ovalis, the functions of the organ will be performed with sufficient accuracy, and that this membrane is one of the most essential to hearing; that the functions of the ossicula and membrana tympani are merely accessary, and are principally employed in regulating the transmission of sonorous rays to the necessary parts of the organ, and in protecting those which are more delicate.

III.

Explanation of Opinions and Practice respecting the Yellow Fever of the West Indies. By MORGAN THOMAS, Woolwich, Kent, Surgeon of the Royal Artillery.

I OBSERVED, only a few days ago, to my no small surprise, in a paper, by Dr. Pym, in the *London Medical Repository*, (vol. vi. p. 186,) that my name is brought forward as a kind of evidence to that gentleman's theory of a fever which he terms "Bulam;" contrary to my decided opinion and practice, deduced from very extensive observation on West India fevers for the last three years and a half. It must appear indeed strange, after this length of residence, serving with the most considerable part of the troops composing the army in the West Indies, and which constantly received fresh supplies from England, that I should never have witnessed the fever of the country in its worst and most concentrated form, which is evidently implied by Dr. Pym, when he asserts that "I did not see a case of Bulam." The truth is, I never considered that gentleman's "Bulam" a distinct disease; and I believe I am sanctioned in this opinion by almost all the medical officers who have had extensive opportunities of viewing West India fevers—men who I believe to be as intelligent medical officers as any in the British army.

Dr. Pym has indeed made a very hasty and erroneous inference from the casual conversation I had with him, which was for a few minutes only in the public street, and was the only one I ever had with him upon the subject.

The only part of my conversation with Dr. Pym which could possibly have induced him to draw such inferences, was, as nearly as I can recollect, "that as a distinct disease, and as he has described the Bulam fever, I knew nothing about it," which was the real purport and intent of what I said, or what I meant to have said. This was mentioned of course in the manner of desultory conversation: but if Dr. Pym had given me any intimation of his object for addressing me upon the subject, or that I had had any idea that I should be brought before the public, I would have been more explicit at the time, and have been saved the trouble of this explanation, in order to place my opinions and practice in a true point of view, and prevent my name appearing in support of a doctrine which I do not entertain.

If Dr. Pym, I say, had informed me of his intention, I should have told him that, what he terms "Bulam," I consider no other than a more aggravated or concentrated degree of the bilious remittent of the country, by no means contagious, and a disease which a person may have more than once, as fatal experience has demonstrated. I understand that Dr. Pym does not admit that the fever can attack the same individual twice, unless it can be proved that the person has had the black vomit; no other symptom being admitted by him, or the few favourers of his doctrine, as characterising the Bulam, whenever second attacks are mentioned to have occurred. Upon this principle he may rest a long time, confident of having established that the disease attacks but once; for it is well known that the black vomit is a symptom preceding death, from which few, if any, have ever recovered. Besides, it may be remarked, that the yellow fever occurs in its most genuine concentrated form without this symptom appearing, or perhaps only in very few instances. In Gibraltar, whence Dr. Pym has taken his history of the disease, during all those noted seasons of sickness and mortality, viz. 1804, 1810, 1813, and 1814, the black vomit, I understand from good authority, was a comparatively rare symptom; for where one patient who had this symptom, even of those who died, there were an hundred and upwards whose cases terminated fatally without its appearance.

In fact, the great puzzle in the hospitals at Gibraltar was to distinguish what should be called bilious remittent, and what Bulam; every variety, from the mild to the concentrated form of the disease, being in the wards, at the same time: and this difficulty will always exist amongst them, so long as they labour to form a distinction when none in reality exists. Dr. Pym's history is, however, evidently taken from the extreme bad cases, or the most concentrated degree of the fever.

With respect to the West Indies being remarkably healthy, and my not consequently seeing much severe disease, I certainly expressed to Dr. Pym that it was healthy, compared to the notions I had entertained of the diseases of the climate previous to my leaving England; for I went out under the impression that I should have met the yellow fever in its worst form all the year round. I believe every medical staff officer serving in the same garrison with me in the West Indies at the time, will admit that they never witnessed more severe forms of the concentrated fever of the country, than were under my own immediate charge; indeed, the artillery was at one period so sickly, that Dr. Jackson, Inspector of Hospitals, remarked that I had in my hospital as strongly marked cases of the genuine yellow fever as he had ever witnessed. I might have told Dr. Pym, if he required fuller information from me, that, by the practice of depletion at an early period, the yellowness of the skin, black vomit, and other symptoms characterising the more advanced stage, might in the majority of cases be prevented.

The fever which presented itself to me during my residence in Barbadoes in the years 1813, 1814, 1815, and the early part of 1816, afforded me ample opportunities of viewing the disease throughout its course, from the mild remittent type to the most severe and concentrated form to which the term yellow fever is usually applied; and in no instance was there the least tendency to contagion or infection. The most common symptoms on the first attack were languor, lassitude, preceded by tremors and chilliness, severe head-aches, pain in the loins and back, a sense of uneasiness in the region of the stomach, in most cases strong vascular action, tongue whitish and moist, little thirst; at the more advanced stage, violent shooting pains about the fore part of the head and temples, darting through the orbits; the stomach irritable, accompanied with much nausea and painful retchings; vomiting, the matter discharged of a green colour; tongue dry, with excessive thirst; bowels obstinately costive; spasms of the extremities, particularly the calves of the legs; redness of the eyes, flushed countenance, violent throbbing of the carotid arteries; the skin intensely hot, oppression about the precordia; sighing, yawnings, great anxiety and restlessness; the patient desirous of being left quiet to sleep; but the constant vomiting harasses and wears him down to such a state of extreme debility, as to be even unable to articulate his wants; distressing hiccough; haemorrhage from the nose; and the patient generally expires in convulsions, delirium, or a comatose state. Much variation of these symptoms is however to be met with in different subjects.

In the treatment of this disease, a great deal depends upon the early and liberal use of the lancet, copious alvine evacuations, warm bathing, blisters, mercurial frictions, &c. By this plan I found the happiest effects in cutting short its violence, or rendering it more mild and tractable. I have not observed that state of debility to follow, which has been imputed to large bleedings. Experience taught me to have recourse to this powerful remedy in most instances on the first attack. I frequently saw the strength more impaired by continuance of re-action at this period, than by a copious bleeding. At a more advanced period this remedy cannot be used with safety.

During my residence in the West Indies, I felt of course much interest in preserving the artillery stationed there in as good health as possible. This I attempted to do, by adopting a measure suggested to me by Dr. Jackson, of visiting the men in barracks daily at their breakfast hour, and closely inspecting every soldier present, off duty, in order to detect any indisposition among them. This was accomplished with the assistance of the non-commissioned officers in charge of messes, who were strictly enjoined to report immediately to the surgeon any unusual deviation from the healthy state, even the slightest ailments; for I often found that such deviations were connected insiduously with the fever of that climate. The most favourable results, no doubt, arose from these precautionary measures. A dose of calomel, with sulphate of magnesia, given at this time, generally removed any disposition to disease lurking in the system.

If the desired result was not fully accomplished by this simple method, the patient was ordered into the hospital.

In pursuing the above mode of treatment, I rarely witnessed much visceral disorganisation; the patient, from frequent attacks, inevitably suffered some derangement of bodily health; but a change of climate to a northern latitude, shortly restored him. If this plan was not fully put in force, dreadful destruction of important organs was the consequence, and the patient became a valetudinary for life.

I feel it a duty I owe to myself and to my profession, to give this brief exposition, with the view of removing those erroneous notions which must be formed of my opinions respecting this disease; and, from the manner my name is introduced by Dr. Pym; and having so done, I disclaim any wish or tendency to enter into a controversy, which has, perhaps, been rather intemperately conducted.

IV.

A Case of Catalepsis Verminosa, cured by Oleum Terebinthinæ rectificatus. By F. Weaver, of Walsall, Surgeon.

On the first of June last I visited Mrs. C. She was of a delicate habit, and had frequently been subject to hysterical affections, from which being generally slight, she usually recovered without much medical assistance. A similar result was anticipated in the present instance; but the attack continued, without remission, longer than usual, and assumed a different character. Much alarm was therefore excited in the anxious minds of her relatives. On my arrival I found her on the couch, apparently in a state of insensibility. "Corporis totius recepta forma, constans, flexilis, cum insensibilitate," *Catalepsis Linnæi.* The temperature of the body was considerably below the natural standard; but the diminution of animal heat could not be accurately ascertained, having no thermometer at hand. There was an entire suspension of all voluntary actions; the eyes were closed, the pupils much dilated, and insensible to light; *trismus maxilaris*, and the jaw was so firmly clenched as to preclude even the possibility of separation; respiration scarcely perceptible; a strong full pulse, indicative of increased excitement of the vascular system; but "*sine rubore faciei*"—"*sine stertore vel sonora respiratione.*" Recourse was had to various external stimuli; and phlebotomy was suggested as essentially requisite; but this was opposed. I was, however, about applying the bandage or fillet for venæsection, when the pulvis nicotianæ excited sneezing, and caused a separation of the maxilla inferior, which enabled me to give three grains of tartarized antimony. She articulated, and expressed disapprobation at my preparing to open a vein, and immediately relapsed.

A blister was applied, and mustard cataplasms; but without waiting the effects of these doubtful auxiliaries, I immediately abstracted thirty ounces of blood, conceiving there was a determination to the head, with compression, from some cause hitherto not ascertained. Before a third of the quantity was obtained, she revived, opened her eyes, moved the extremities, and was raised up in bed; the vital fluid still flowing with a rapid current. She expressed much satisfaction and gratitude for the benefit received. The pulse maintained its strength and velocity till within two or three ounces of the quantity taken; it then became soft and feeble. A solution of magnesia sulphas was given every hour till it operated. It operated well: after which a volatile cordial draught was given. The cataplasms were removed, having excited much local irritation. The emetic acted soon after the bleeding.

June 2nd. She had a tolerable night, and continued mending; ordered the solution to be repeated every four hours, with a suitable regimen. The blister had done its duty.

June 3d. She was going on tolerably well, although rather languid; and had slept. The solution was omitted. In the evening I found her not so well; and apprehensive of a relapse, was about to request the attendance of Dr. Darwin of Litchfield; but during the night she became considerably better.

June 4th. No improvement; rather worse than yesterday. "Sopor constans cum insensibilitate, respirationeque tacita"—a small, slow pulse. The remote cause of this tumult in the system was evidently not removed. Dr. Darwin visited the patient; and, from having recently had a similar case, he was of opinion that the disease was *catalepsis verminosa*, and that a tape-worm was the exciting cause. He ordered oleum terebinthinæ ℥ij. statim sumendum. In a few hours a portion of a tænia, about eighteen inches in length, was expelled, besides many fragments; but, expecting some might be left behind, this specific was repeated, and more were evacuated. An opiate was administered at bed-time.

June 5th. She was considerably better—a draught was prescribed of decoct. aloes ℥ij bis die.

June 6th. She continues her medicines, and is in good spirits; but much debilitated. The bowels being too lax, the aloetic draught was continued once a day. By the aid of gentle tonics, she was soon convalescent.

It is remarkable that my patient had never before experienced any inconvenience from the tænia. She had been subject to hysteric affections; but generally during uterine gestation only. From the appearance of the worm, I should imagine it was not of mature growth, its breadth being not more than one-sixth of an inch, and it was almost diaphanous.

It is astonishing that vermicular irritation should produce suspension of all voluntary and involuntary powers, and of sensation; and should induce so strong a vascular action, and determination to the head, as to threaten the extinction of life.

How necessary it is to distinguish between cause and effect—between idiopathic and symptomatic affections—primary and secondary causes—this case fully illustrates.

"Felix qui potuit rerum cognoscere causas."

V.

A Case of Imperforated Hymen. By R. H. Hooper, of Downton, Wilts, Surgeon-Apothecary.

In July 1816, I was desired by Mrs. H. to see her daughter, of whom she gave the following account: She was seventeen years of age, but had not yet menstruated; for the last twelve months she had been complaining of violent pains in different parts of the body; for which, she was placed under the care of a medical gentleman, who administered medicines, but without relief. She grew gradually worse, and the pains were now become intolerably acute. After a violent fit of pain, a swelling was perceived, and it was supposed that a rupture had taken place, for which she before wore a truss. The pain was very excruciating, and attended with so much sickness and fever, as to make it appear impossible that she could long survive, unless some relief could be given.

From this account I was led to suppose, that it was a case of strangulated hernia; but, on examining the tumour, I was immediately convinced, both by its situation, which was a little below and to the right of the umbilicus, and its size, that this was not the case. On an examination per vaginam, I found the orifice of the vagina dilated, and occupied by a membrane which was slightly protruded; and the labia were more prominent than natural. On pressing this membrane with the point of my finger, a fluctuation was felt, very similar to that which occurs when there is a large collection of the liquor amnii between the membrane and the head of a fœtus. I had no longer any doubt but that this was a case of imperforated hymen, and therefore made an opening with a lancet through its whole length, when about a quart of thick uncoagulated menstruous blood was discharged, to the immediate relief of my patient.

I should not have thought it necessary to publish this case, had not considerable doubt been entertained as to the nature of it, and from the mistake of supposing it a rupture, for which a truss was actually applied; an error that might be attended with unpleasant consequences both to the patient and the medical attendant. The general health of this young lady appeared for twelve months previously, not to have been affected very materially; indeed she was rather full and plethoric. Whenever the pain was violent, nothing appeared to give so much ease as pressure on the abdomen. The appearance of the enlargement and the attending pains might have deceived a young practitioner, and have led to a suspicion of pregnancy and uterine action. The recollection therefore of the possibility of similar cases to the above, may prove extremely useful, and on that account, this case may be deemed worthy of a place in the *Repository*.

VI.

Case of extraordinary Accumulation and Retention of Urine. By J. G. De Merveilleux, Jun., Stamford, Lincolnshire, Member of the Royal College of Surgeons in London.

Bridget Hill, aged forty-five years, a poor woman belonging to the parish of King's Cliffe, Northamptonshire, seven miles from Stamford, ten days after her delivery was attacked with retention of urine, which had continued five days, when I was called to see her on the 28th of January, 1816. She had frequent vomiting and hiccup, and a weak tremulous pulse beating 100 strokes in a minute. The abdomen appeared as large as in an extreme case of ascites. There was a little urine evacuated a short time before I saw her.

I immediately introduced the catheter, while, as the urine was flowing, an assistant applied steady pressure on the parietes of the abdomen. *Sixteen pints*, as measured by Mr. Wood of King's Cliffe and myself, of dark-coloured and offensive urine were evacuated. Fearful, lest the sudden evacuation of so large a body of fluid might be productive of evil consequences in the reduced state of my patient, I applied a bandage round the abdomen to keep up a gentle pressure; a little aperient medicine was ordered, as there had been no evacuation during the retention; and the tinctura ferri muriatis was given three times a day. The catheter was continued for six days, and on the seventh, the patient was able to void her urine without any assistance. She has since remained in perfect health.

VII.

Letter from Mr. Richard Rawlins, Surgeon, &c. Oxford, to One of the Editors, on his Invention of the Reflected Forceps.

Sir, I find, in the *London Medical Repository*, vol. viii. p. 70, Dr. Davis announced as the original inventor of the reflected forceps for delivering the heads of children in their birth, after the use of the perforator in craniotomy; and, as a reward, he acknowledges having received a gold medal from the Society for the Encouragement of the Arts and Sciences. Now, Sir, I beg to assure you I made this discovery many years since; and, as far back as the year 1793, published an account of it in a *Dissertation on the Obstetric Forceps*, addressed to Dr. Wall of Oxford. I have had the pleasure of shewing you the instrument, likewise the handsome mention made of me in a Latin Treatise by Dr. Mulder*, upon the various improvements made upon this instrument since its first discovery, as also of leaving for your inspection the Dissertation above referred to. I therefore trust you will take an early opportunity of informing the public who was *the real first inventor of the reflected forceps*. I intend making my claim known at the office for the Society for the Encouragement of the Arts and Sciences.

I am, Sir, very respectfully, your's,

July 29, 1817. RICHARD RAWLINS.

⁂ We have seen the instrument to which Mr. Rawlins refers in his letter, and likewise his Dissertation. When we published, in our RETROSPECT of last July, the account of Dr. Davis' forceps, we were not aware of the existence of Mr. Rawlins's; or we would have noticed the invention of that venerable accoucheur.

It has always been our intention to give an accurate engraving of Dr. Davis' Instrument; and this letter of Mr. Rawlins has induced us no longer to delay it, in order that the respective merits of each forceps may be before the public. For an explanation of that which the latter gentleman claims as an original invention, we refer to his Dissertation, (plate II).

So far as that both blades of the forceps are parallel, with a locking part common to each, and that they are introduced one within and one without the cranium, so as to embrace a portion of the cranium of the fœtus, the design of both forceps is nearly analogous. But the inner blade of Mr. Rawlins' forceps, it will be seen, is much shorter than the outer; and although the insides of the points be corrugated, to give a firmer hold of the parts, yet, in this and some other particulars, the forceps of Dr. Davis appears to have decided advantages over that of Mr. Rawlins.

As to the question of originality of invention, we must leave that where we found it; remarking only, that we have seen several forceps exhibited by Dr. Davis to the Society of [illegible] &c. shewing his progressive improvements of the instrument[illegible] and we have too high an opinion both of his talents and [illegible]racter, to think that he has occasion to resort to plagiarism, [illegible] that he would wish to usurp any merit to which another [illegible] a just claim.—EDITORS.

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* *Historia Literaria et Critica Forcipum et Vectiûm Obstetriciorum.* Auctore Johanno Mulder, Lugduni Batavorum, 1794.

VIII.

An Explanation of Dr. DAVIS's Craniotomy Forceps.

(With a Plate.)

FIG. 1.—The SINGLE CURVED CRANIOTOMY FORCEPS.

a.—The external blade and handle.

b c.—A strait line drawn between the extreme points at the ends respectively of the external blade and its handle, and subtending the curve of the instrument. This line measures thirteen inches, and gives the greatest length of the forceps.

d e.—A line drawn at right angles at *d*, from the subtending line *b c*, to the outside of the external blade, measuring $1\frac{7}{8}$ inch, shewing the extreme curve of the instrument at this part. N.B. The line *d e*, as represented in the above engraving, measures two inches; but this deception arises from the instrument being seen a little in perspective for the convenience of shewing its grasping surfaces.

f.—The dotted lines from the angle at *f*, are intended to direct the reader's attention to the grasping part of the external blade. This part of the external blade is hollowed out like a spoon; from the bottom of which, project seventeen sharp and angular teeth. The points of the teeth are under the level of the brim, so as to enable the operator to introduce this blade at pleasure without the risk of injuring the mother.

g h.—A strait line drawn between the extreme points of the internal blade and its handle. This line measures $12\frac{3}{4}$ inches.

i k.—A line drawn at right angles at *i* from the line *g h.* to shew the curve at this part of the instrument. The dimensions of curves are usually expressed, by stating those of the circles of which they are segments; but as in this instance the curve is considerably greater at the blade than at the shank part of the instrument, and scarcely the same at any two points, such precision could not have been conveniently attained. The line *i c*, including the thickness of the instrument at *k*, measures one inch. The thickness of the instrument at this part, is $\frac{1}{4}$ $\frac{1}{16}$ of an inch. At two inches nearer the handle, it is full $\frac{1}{3}$ of an inch.

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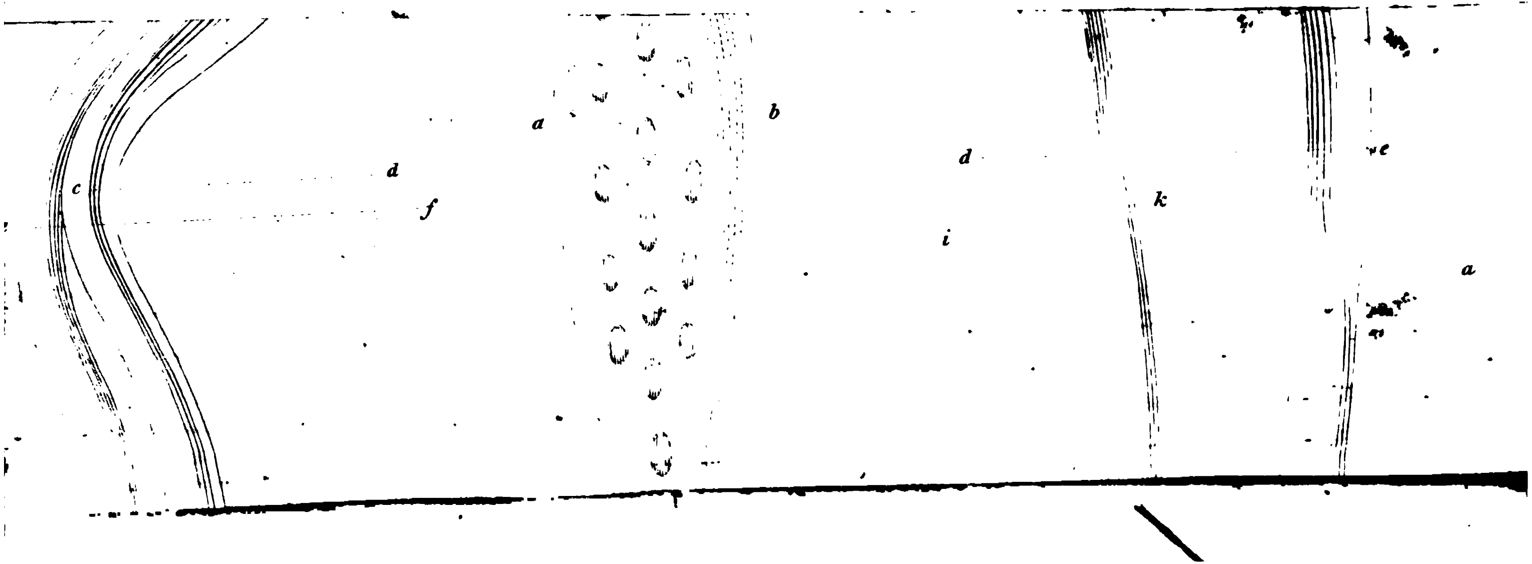

l m.—A line drawn at right angles at *l* from the line *g h*, to shew the greatest degree of curve of the internal blade. This line measures an inch and $\frac{1}{12}$.

n.—The dotted lines from the angle at *n*, are intended to direct attention to the perforations in the convex surface of the grasping part of the internal blade. These perforations are also seventeen in number, and are so arranged as to receive very accurately the corresponding teeth of the opposite blade. The convexity of the internal blade corresponds with great precision to the concavity of its opposite. Hence it must have the effect upon the instrument, being firmly adjusted at the lock, of pressing the intermediate skull and scalp of the fœtus into the concavity, and upon the teeth of the external blade. Thus armed with seventeen transfixing points, which are forced to penetrate into the scalp and cranium of the fœtal head, it is evident that the craniotomy forceps cannot readily slip.

o.—A brass nut, projecting at right angles from the metallic surface of the handle of the internal blade, intended to enter into a corresponding perforation in the opposite handle. The use of this contrivance, for which Dr. Davis is indebted to the maker, Mr. Botschan, is to admit of greater play at the joint; and at the same time to insure the accurate adjustment of the grasping surfaces. This nut is about $\frac{3}{4}$ of an inch long, and about $\frac{5}{16}$ of an inch in diameter.

p.—The joint of the instrument; being the same with the joint of the common midwifery forceps.

FIG. 2.—The CRANIOTOMY FORCEPS of the second form, or the DOUBLE CURVED CRANIOTOMY FORCEPS.

In cases of great confinement of the pelvis, it will sometimes happen, that the frontal and parietal bones may be removed in fragments of greater or less magnitude, without however bringing down the remainder of the head so as to make it engage in the brim of the pelvis, the occipital part of it remaining unmoved, and hitching over the pubes. By the removal of the anterior part of the skull and scalp, all purchase accessible to the single curved forceps, is lost; inasmuch as that instrument could not be reversed in the application of its curve, without causing with its shanks, much and dangerous pressure upon the perinæum. For the relief of such melancholy cases, Dr. Davis has adapted another form of his instrument, of which we have given a nearly perpendicular view sketch in *Fig.* 2.

The whole of the anterior part of the fœtal skull being removed by the single curved forceps, the external blade (i. e. the blade with the teeth in its concavity) is to be introduced immediately behind the pubis over the occipital part of the fœtal head, with its convex surface to the pubis. The internal or grasping surface will consequently be applied to the outside of the child's head. The internal or antagonizing part of the instrument must be introduced, so that the convex or grasping surface shall embrace the corresponding part of the child's skull on the inside. In consequence of the double curve here adopted, the purchase sought for will be easily obtained without the necessity of laying any material stress upon the pericrum or os coccygis; the shanks of both blades of the instrument being diverted at the curve from the axis of the brim of the pelvis to that of the lower part of the vagina.

a b.—This dotted line gives the length of the external blade of the double curved forceps, and measures thirteen inches.

c d.—This dotted line gives the distance of the shank of the external blade at the curve; *c* the thickness of the shank, inclusive from the strait line *a b*. It measures one inch and a half.

e f.—This dotted line gives the distance of the shank of the internal blade at the curve *e*, from the strait line *h i*. the thickness of the shank inclusive, and measures two inches.

g.—The perforation in the handle of the external blade to receive the brass nut, as described in *Fig.* 1. of the opposite handle. N.B. This contrivance is intended to be common to both forms of the instrument.

Fig. 3.—This figure is given to convey an idea of the dimensions of the grasping surface of the external blade.

a b.—The dotted line *a b*, being one inch and $\frac{1}{12}$ in length, measures the greatest breadth of this surface across its concavity; the line being understood to subtend its concavity.

c d.—The line thus marked, expresses the production of the instrument beyond its concavity in the direction of its length, and measures a quarter of an inch.

The object of this contrivance is to remove any pendulous part of the os uteri out of the reach of the grasp of the instrument.

e d.—This line is a measure of the length of the concavity and subtends it. The length of the subtending line is $3\frac{3}{4}$ inches.

The teeth projecting from the deepest part of the concavity, are a quarter of an inch long. Those in the shallower parts of the spoon, are progressively shorter as they approach the brim; it being necessary for all, for the reason which has been already stated to be under the actual level of the brim.

Fig. 4.—This figure is given to represent the convex surface of the internal blade.

a b.—A strait line, which measures 1 inch, and gives the greatest breadth of this blade.

c d.—A curved line drawn from the commencement of the convexity, where the shank begins to expand into blade, to its termination at the top of the blade. This line is supposed to be a curve, following a curve of the grasping part of the instrument, and measures $3\frac{3}{4}$ inches.

The perforations on the convex surface, which are very well represented in the engraving, are intended to receive the teeth of the opposite blade. The vacant spaces between the perforations are made rough, after the manner of a rasp, in order to prevent the slipping of this blade along the polished interior of the fœtal skull.

PART II.

ANALYTICAL REVIEW.

I.

Observations on the Deranged Manifestations of the Mind, or Insanity. By J. G. Spurzheim, M.D. Licentiate of the College of Physicians in London, Physician to the Austrian Embassy, Author of the "Physiognomical System of Drs. Gall and Spurzheim," &c. with Four Copper Plates. London. Royal 8vo. pp. 312. Baldwin, Cradock, and Joy, 1817.

Much as the lovers of speculative philosophy have been amused with the craniological and physiognomical systems of Drs. Gall and Spurzheim, they who value all theories only as they conduce to some useful and practical end, and these perhaps form by far the majority in the British isles, have asked, and hitherto perhaps asked in vain, to what good do such speculations lead?

We by no means range with those who thus argue, and who value nothing but what produces visible or tangible results. Science can never stand still; it may and will retrograde when the thirst after knowledge shall cease. But until humanity is content with its lot on earth, inquiry will be active, new theories will arise, and philosophy extend her empire.

In the science of physiology, no part has been more stationary than that which pertains to the brain. Although from the industry of numerous anatomists, we are made acquainted with the form and various parts of this organ, yet from the time of Willis, a period of near two centuries, little has been added to what he demonstrated; and notwithstanding all the learning and ingenuity that has been displayed, we are still really ignorant of its precise functions in the animal œconomy; and what are the relations of the human intellectual sentient faculties, to the several parts of which the cerebral mass is manifestly composed.

System after system has arisen, and each has had its partisans and supporters; but when the touch-stone of reason has been applied, every one has successively departed, "like the baseless fabric of a vision," and still left us in darkness and in doubt.

Enthusiasm is commonly the concomitant of genius; we should therefore never, *à priori*, condemn doctrines merely because they exceed the limits which our own reasoning or imagination prescribes; but, ere we decide, we ought patiently to examine them, or wait the test of experience, to assay their value. To us, the systems of Drs. Gall and Spurzheim, making due allowance for enthusiasm, have appeared too speculative and fanciful; yet, amidst many extravagancies, very important considerations are mingled, which demand serious deliberation and thorough investigation, before they are rejected.

Divesting the doctrine of the author before us of all extrinsic matter, and viewing it as a new system of physiology of the brain, we have ever conceived it deserving of attention; nay even of our thanks. Strictly according with the motto prefixed to his work, that "Nothing tends more to the corruption of science than to suffer it to stagnate," it is a more than ordinary merit to attempt breaking those fetters in which the judgment has so long been enthralled: and since every physiological system of the cerebral functions has been abandoned almost as soon as it had birth, to suggest another which could be supported by at least plausible arguments, is a fair claim to the palm of praise. We think none can deny Dr. S. this merit. His dissection of the brain itself, which we have witnessed and closely examined, is, notwithstanding the attacks with which he has been assailed, a most admirable specimen of adroitness, and superior accuracy of anatomical demonstration. Impartiality demands that we should do him this justice. But, although we concede this much, yet let it not be conceived that we go so far with him as to admit all the inferences he deduces from the form and disposition of the cerebral parts. In truth, we neither intend to admit nor to deny them; conscious that nothing but observation upon a much more extended view of man in health and in disease, and for a long series of years, can prove their truth or fallacy.

From an anatomical investigation of the organs which compose the brain, and the contemplation of the beautiful arrangement it exhibits, we are naturally led to meditation; and, in reflecting upon the uses for which this wonderful structure was intended, to feel the littleness of man, and confess the presence of that OMNISCIENCE who made nothing in vain. Still human investigation and ingenuity have clearly established the connection of the brain with the operations of the mind; and hence numerous hypotheses have been formed upon the relation of different faculties of the mind with certain cerebral organs.

For a particular account of the doctrines of Drs. Gall and Spurzheim, and their appropriation of each particular part of the brain to a corresponding faculty or manifestation of the mind, we must refer to our review* of their Physiognomical System for an explanation.

The transition from the consideration of the physiological or healthy, to the pathological or disordered state of these manifestations, was at once easy and natural; and knowing that our author professed not only novel views, but also an intimate knowledge of the human intellectual powers, we anticipated the publication of his "Observations" with much impatience; concluding, that if he were better acquainted with the instruments of the mind, he must consequently be better informed respecting their morbid manifestations: and hence a new system of the therapeutics consonant with those views, and his great experience. How far our author has realized those expectations, the analysis of his work will best testify.

Ere we, however, enter deeply into the subject, we must, on the very threshold, embrace the occasion to oppugn a position which Dr. Spurzheim, in common with most foreign writers on insanity, has advanced; which is, that in Great Britain "this affliction may be considered as almost endemical." We are confident that there are no more grounds for supposing insanity endemic in this country, than *ceteris paribus* in most other countries of Europe. This national reproach, we believe, may be ascribed to our own countryman, Dr. Cheyne; who, in his popular Treatise, intitled "The English Malady," gave rise to the supposition that "the spleen," a species of hypochondriasis, was an affection peculiar to England; and the French nosologists, have accordingly classed it under *vesaniæ* by its English name.

If we search into the history of man, we shall universally find, that the frequency of insanity is in a direct ratio with the degree of his civilization; and that any great event affecting suddenly the religious, civil, or political relations of a nation, and hence the condition of its population, will always augment the number of the insane. Such, according to the French medical writers, was the effect of the revolution in France, and the devastating wars that ensued. Such effects also resulted throughout Germany, wherever the war most particularly pressed; such also, according to Dr. Hallaran, resulted from the late rebellion in Ireland. Habits, and the mode of living, differ in all countries; and we are far from denying, that those of the English more readily induce those corporeal diseases which predispose to derangement of the intellects. But to say that it is endemic, is an assertion for which no authority can be adduced. Were it in place, we would descant more largely on this subject.

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* *Repository*, vol. iv, p. 53, 208.

Dr. Spurzheim proceeds with some preliminary and just remarks on the neglect of the study of disorders of the mind; and assigns as the cause of our present ignorance, the difficulty attending the examination of the subject. In fact, the study of insanity has been too generally considered out of the proper sphere of medical practitioners; hence the treatment of it has been universally deemed an exclusive branch of the healing art. But this cannot entirely account for so limited a state of knowledge. In our opinion, it is almost impossible for a physician, occupied with other pursuits, ever to acquire any great proficiency in the treatment of insanity. It demands certain constitutional, as well as acquired talents that are rarely united; and it, besides, requires a devotion, that none who have other professional views and engagements can possibly give it. Another cause mentioned by our author, none can doubt; for "it is indeed to be lamented, that, from public institutions and from private establishments, where opportunity of inquiry into this disease occurs, no more medical communications are made." It is indisputable, that no one physician to any public insane establishment of Great Britain has benefited the world by the experience such establishments have so amply afforded. It is true, Dr. Haslam published his "Observations on Madness," while apothecary to Bethlem; and although those observations convey important information, and strongly mark the talents and peculiar fitness of the writer for the task, yet it must be confessed, that the perusal of his work excites deep regret, that so favourable an opportunity has not been productive of a more satisfactory result. There are, nevertheless, a few tracts by other practical writers, which evince a considerable degree of knowledge of the subject; while too many exhibit nothing but theory; and others betray very adroit specimens only, that the promotion of science is not always the object of an author.

There is another cause too for our ignorance respecting insanity, at which Dr. Spurzheim glances, and which is certainly true; but it is a cause which, to remove, appears to us almost insurmountable. Medical pupils, although instructed in every disorder to which the human body is subject, and, in many medical schools, are even obliged to attend lectures on the diseases of animals, and on the veterinary art, yet, have no opportunity of studying the disorders affecting the mental faculties. We have heard it urged that lectures on insanity should be instituted, and that public insane establishments ought to be opened, like other hospitals, for the instruction of pupils in all that appertains to the treatment of the insane. Dr. Battie informs us, that, when St. Luke's was first built, it was intended that it should afford the opportunity for students to acquire this knowledge.

Why it was not so appropriated, does not appear. But it is not improbable that further reflection would show the many objections that must exist to the throwing open insane establishments, wherein the recovery of patients was an object desired, to inconsiderate young men. Let this thought be for a moment entertained, and the propriety or utility of such a scheme must instantly vanish. If such establishments can ever be made accessory, in a general way, to the obtaining of a knowledge of insanity, it could be only to those whose age and character would be a surety for a prudent exercise of the privilege. Yet, as medical men at that discreet age are generally fixed in their pursuits, there would be very few indeed to avail themselves of it. Hence the advantage of such a plan for medical instruction would be very insignificant.

Nothing, we believe, will contribute so much to success in the treatment of insanity, in any of its forms, as for physicians to discard all metaphysical and abstract speculations concerning it; and to adhere to those principles of pathology which ought to be our guide when viewing all the other diseases of the human body; and if that view be aided by an intimate knowledge of the moral faculties of man—a knowledge which is acquired by association with the world only; then shall we arrive at a more correct diagnosis of insanity.

"There are," says Dr. Spurzheim, in his Introduction, "general considerations of pathology which are overlooked in the treatment of the deranged manifestation of the mind. As, however, the diseased state of animal life, in many respects, is to be treated in the same way as that of automatic life, and as medical practitioners never ought to lose sight of these considerations, I shall mention them succinctly.

"In medicine the first notion to be acquired is that of the difference between symptoms and disease. If the functions of the body or its parts be disturbed, not the disturbance of any functions, but the cause of this disturbance, is the disease. Hence by far the greater number of the pretended diseases are mere symptoms.

"In every patient, a peculiar attention is to be paid to his bodily constitution. Its influence on the susceptibility of diseases, and on their curability, may be observed in whole nations, and in different individuals of the same nation. Civilized people suffer many complaints which are quite unknown to savages; and these overcome injuries and diseases, the tenth part of which would kill delicate citizens. The greatest practitioners consider it as a maxim, that weak and cachetic persons are easily and often affected, and that their functions suffer the greatest disorders by insignificant causes, which have not the least influence on strong and robust individuals. Moreover, not only general, but also local weakness is to be considered. There are few persons who have not one part of the body weaker than the rest. In many families the weakness of various parts is even hereditary. On this account, the same disease often produces different symptoms in different individuals, and affects in one patient the head, in another the thorax, in a third the abdomen, &c. so that sometimes physicians are mistaken, and declare the different symptoms to be different diseases."— p. 7.

These observations introduce us to many of the author's practical views. In pursuing the discourse, he conceives that it is necessary to distinguish the healing power of Nature and that of Art. Nature will, no doubt, do much in insanity, as well as in many disorders of the human constitution; and her means are various: but the powers of Nature are not always adequate to the cure. It behoves us, therefore, in cases wherein a doubt on this point may arise, to be exceedingly cautious, since not only the preservation to the patient of his rank among intellectual beings, but the happiness of his family may depend on our judgment. The whole of the Introduction, indeed, contains many judicious reflections.

The page of CONTENTS will best display the author's division of his subject.

"PREFACE—INTRODUCTION.

"PART I. DERANGEMENT OF THE EXTERNAL FUNCTIONS OF THE MIND.—*Chapter* 1. *Disorders of Voluntary Motion.* Convulsions; Epilepsy; Catalepsy; Palsy.—*Chapter* 2. *Diseases of the Five Senses.*

"PART II. DERANGEMENTS OF THE INTERNAL FUNCTIONS OF THE MIND.—*Chapter* 1. *Diseases of the Brain.* Cephalalgia, Vertigo, and Lethargic Affections; Apoplexy; Phrenitis; Hydrocephalus acutus. — *Chapter* 2. *Insanity.* — 1. Definition. — 2. Symptoms. — 3. Division. — 4. Causes; the Proximate Cause of Insanity is Corporeal; it resides in the Brain; on the Nature of the Causes of Insanity; Idiopathic connate Idiotism; Idiopathic occasional Idiotism; Fatuity; Idiopathic Mechanical Causes of Insanity; Is the Shape of the Head a Cause of Insanity? Idiopathic Dynamic Causes of Insanity; Sympathic Causes of Insanity; Insanity is frequent in England. — 5. Forms of Insanity; Fits of Insanity. — 6. Prognosis. — 7. Treatment of Insanity; Moral Treatment; Architectural Requisites of a Hospital for Curable Insane; Department for Convalescents; Reception of Patients; Cleanliness, Air, and Light; Temperature; Diet; Coercion; Treatment of the Feelings; Treatment of the Intellectual Faculties; Occupations of the Insane; Inspection and Visitation; Medical Treatment; Explanation of the plates."

Under *Mental Functions* Dr. Spurzheim arranges "voluntary motion, the five senses, feelings, and intellectual faculties;" and these are divided into *external* and *internal* functions; the one being the result of automatic, the other of animal life; the former the result of organization, the latter of the mind. In treating, therefore, of derangement of the external functions, it is to be understood, that voluntary motion and the functions of the five senses are meant. But of their disorders a brief outline only is given; because they are already so much examined by other writers; although he thinks our knowledge of them susceptible of great improvement.

In Dr. S.'s opinion, there are no peculiar diseases of the muscles; but when they are affected, which they may be, by different diseases, as inflammation, syphilis, fevers, &c. that the derangement of their functions arises only from their peculiar structure and function; for chorea, tetanus, trismus, epilepsy, &c. are merely symptomatic, or, as Dr. Spurzheim has it, *sympathic.*

In explaining the phenomena of palsy, Dr. S. has recourse to the position he laid down in his Physiognomical System; viz. that there are two sorts of nerves—those of motion, and those of feeling.

> " In palsy, as in any other disorder, the first examination to be made concerns the parts which are affected, and the functions which are disturbed. Then the cause of the disturbance is to be discovered. In palsy, the disorder may reside in the brain, in the nervous cord of the spine, in the abdominal viscera, or in the paralytic parts themselves. Hemiplegia originates from various injuries of the brain."—p. 26.

For an amplification of the pathology of palsy, we must refer to the opinions which are peculiar to Drs. Gall and Spurzheim. It is not our object here to discuss those opinions; and since they are not new, there is the less reason to dilate upon them. His conclusions upon this subject however ought not to be omitted.

> " Palsy of the whole body or of one side, is less common than that of the upper or lower extremities, or of single parts. I doubt whether palsy of the lower extremities alone, or of one single part, has so often its cause in the brain as it is said. Formerly such an idea could have been adopted and supported by the erroneous opinion that all nerves originate in the brain. But as the contrary is anatomically proved, I think that, in many cases, the cause may also reside either in the nervous cord of the spine, or in the abdominal viscera, or in the affected limbs themselves.
>
> " The morbid affections of the nervous cord of the spine are far more frequent than it is commonly believed. It is too seldom examined after death. The dissection of the vertebral canal is too difficult, and discourages the anatomists. If there be no external morbid appearance of the vertebræ, physicians do not think of dissecting this important part."—p. 28.

In illustration of his arguments, the author adduces the anatomical researches of Dr. Saunders of Edinburgh, and the observations of Dr. Parry and Mr. Pott; the former of whom has investigated, with great attention, the morbid appearances in the spinal cord, and has pointed out the congestions of the blood vessels there situated, after convulsions. The author observes, that

> "the spinal cord is composed of a nervous mass, has the same membranes as the brain; hence it may be affected by the same diseases as the brain, such as inflammation, suppuration, induration, tumours, congestion, or ossification of the blood vessels, collection of any fluid, by irritation, weakness, or exhaustion of the nervous mass. The spinal cord may also be injured or compressed by the deviation of the vertebræ."—p. 30.

As causes of palsy, he refers to disorders of the digestive organs, to an idiopathic affection of the muscles themselves, from compression of the nerves in their course, or from ossified arteries, preventing the blood from going to the parts, and to ossified veins opposing its reflux: refrigeration is likewise a cause of partial palsy.

> "According to all these different causes the plan of cure must be modified.—If a local disorganization of the brain, or a collection of any fluid in the brain, be the cause, the disease is incurable.—If it originate from a depression of the skull by violence, the operation of trepanning must be performed, and the broken portions removed.—If it be a symptom of a general disease, as of gout, fever, inanition, the plan must be adapted to the general disease.—If it result from repercussion of cutaneous eruptions, or from drying up habitual drains, then issues, blisters, setons, artificial eruptions of the skin, and remedies acting on the skin, are to be administered.—If it have been produced by lead, the remedies against the colica pictonum in general are also indicated against this symptom."—p. 32.

When the cause is in the spine, Dr. Spurzheim thinks, with Pott, that palsy of the lower extremities is not the result of weakness and softness of the spinal vertebræ. He is adverse to a long continuance in the horizontal position, and decides, "that Pott's or the Arabian method of treating palsy of the lower limbs, even where there is no curvature, has cured a greater number of patients than the horizontal position without issues." If weakness of the abdominal viscera occasion palsy, the cure must be attempted by restoring "the digestive power by means adapted to the individual irritability of the patient."

The author next proceeds to "*Diseases of the Five Senses.*" After some preliminary remarks, he observes,

> "as to the causes of the deranged functions of the five senses, the same general considerations obtain. The individual nerves may be affected for themselves; they may, for instance, be inflamed or affected by a greater vascular action, or diminished in size, disorganized, or morbidly affected by general diseases, like every organic part; or their functions may be deranged on account of a diseased brain, or on account of disorders of the abdominal viscera. Worms in the intestines, for instance, may affect all the senses; they may produce pain in the limbs, tickling in the nose, cough, grinding of

the teeth, disagreeable smell, blindness, deafness, and other symptoms. Derangements of the five senses are often precursory symptoms of apoplexy.

"Thus, the disorders of the five senses are to be considered according to the general principles of pathology."—p. 37.

and, finally, he refers the details to general pathology.

Dr. Spurzheim then enters upon what may be considered the immediate and more interesting part of his work; viz. "*Derangements of the Internal Functions of the Mind.*"

Agreeably to his reasoning, the *external* functions of the mind are disturbed and cured according to the general principles of pathology; are sympathetically affected in different diseases; often suffer idiopathically, and sometimes the organization presents a morbid appearance, whilst at others none can be detected: so, likewise, the same obtain in respect to the *internal* functions of the mind.

"It is known that the internal operations of the mind are often deranged in general diseases, such as in fevers, inflammations, gout, &c.; and every one admits that delirium, stupor, vertigo, lethargic affections, even apoplexy, depend on the cerebral organization. But, by our ignorance with respect to the functions of the brain, far the greater number of the deranged manifestations of the mind have not yet been generally considered as disorders of the cerebral organization. I think, however, that, as in the disorders of any other organic part we always consider at the same time its deranged functions, and in observing the deranged functions we think of its disturbed organization, our proceeding in regard to the brain ought to be the same. Those who speak of diseases of the mind alone may speak with the same reason of diseases of the mere vital principle in liver complaints, or in disturbed digestion or in its idiosyncrasies. Such physicians may confine their plan of cure to a moral treatment of the archeus, in cases where a person cannot digest mutton or cauliflower.

"Meanwhile I am obliged, in a certain degree, to render my considerations conformable to the general division of nosography; but the time may come when the derangements of the mental operations, and the disorders of the brain, will be classed in the same order, and only the different disorders of the brain will be spoken of, as is actually the case with the five senses and their organs; when it will be admitted that the deranged functions of the mind are sympathic or idiopathic affections of the cerebral organs; finally, when it will be believed that what happens in all other bodily parts occurs in the brain, viz. *that every perceptible derangement of the organization does not visibly affect the function, and that every disturbance of function is not accompanied with a visible alteration in the organization.* Accelerated circulation of blood does not always derange the function of the stomach, nor that of the brain. There are cases on record where a considerable disorganization of the lungs had not disturbed respiration, and was detected only after death."—p 39.

We confess that this reasoning so much accords with our own views of the subject, that we feel pleasure in quoting it: not merely because it strengthens our opinion, but because we feel assured that the more generally it is impressed, the more certainly will the present erroneous views of insanity give way, and a more rational practice be consequently substituted.

In treating of "*Diseases of the Brain*," we must pass over our author's remarks on cephalalgia, vertigo, lethargy, cataphora, carus, lipothymy, and syncope, in order to notice considerations more immediately relevant.

Apoplexy is indeed a state of disease most intimately connected with that of insanity. The decided proofs insane persons exhibit of disordered circulation while living, are *a priori* reasons for expecting those morbid appearances almost always exhibited within their crania, when examined after death. The most casual observer must have observed how often an attack which begins with symptoms of insanity terminates in apoplexy; and, *vice versâ*, symptoms of undue determination of blood to the head are frequently precursory to insanity. This has forcibly struck us in our own morbid examinations of the crania of those who have died insane; and we are happy to find two such accurate pathologists and able physicians as Drs. John Cheyne* and John Armstrong† lay such particular stress on the analogy of mania and apoplexy. Among the physical causes of insanity in La Salpetrière, Dr. Esquirol computes about one in six from apoplexy; and from a table of 277 deaths of insane persons, he found as many as 37, or almost one seventh, from the same cause. According to the morbid examinations of modern pathologists, the evidence of diseased action in the circulation of insane persons is generally clear. Indeed, it is impossible to treat of insanity without embracing a view of the pathology of apoplexy; nor should we, in our medical treatment or prognosis, ever overlook this relation. Apoplexy, therefore, is prominent in our author's consideration of cerebral diseases. Of his diagnosis of apoplexy there is little necessity to speak; but on his pathology of it we feel it necessary to be a little more explicit.

> "The proximate cause of apoplexy is connected with changes of the brain, which may go on for a considerable time. This opinion is founded on the previous disorders of its functions, and on the various organic changes detected on dissection. Undoubtedly the scalpel in the hand, or dissection after death, is the best way of investigating the seat of the proximate cause of diseases. In dividing the scalp there is often a great flow of blood from the frontal and occipital veins; the membranes of the brain are often thickened, the arachnoidea is sometimes opaque, the veins turgid with dark

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* On Apoplexy and Lethargy. † Illustrations of Typhus, &c.

blood; in general a great congestion or determination of blood to the head is observed. The consistency of the brain is different, as is the case in other individuals who do not die apoplectic. Three appearances are particularly remarked, viz. there is an extravasation of blood in the ventricles, or at the basis of the brain and cerebellum;—or there is a serous effusion, sometimes accompanied with suppuration or tumours;—or there is no extravasation at all. Accordingly, long ago, apoplexy has been divided into sanguineous, serous, and nervous.

"With respect to sanguineous apoplexy it may be asked, on what sort of laceration the effusion of blood depends, whether on dilatation and weakness; or on erosion and suppuration: whether on the large or small vessels; and in what part of the brain? The blood-vessels may break at all parts of the brain and cerebellum, in the cavities and at the surface, in the same way as in other parts, on the legs, for instance, in the abdomen or thorax. An effusion, however, at the basis, towards the medulla oblongata, produces the most certain and sudden death."—p. 45.

"A serous apoplexy is observed in adults under circumstances which in children produce hydrocephalus acutus; that is, in individuals with an inflammatory diathesis of the brain, where the great determination of blood to the head produces a serous effusion. In strong individuals it may appear as phrenitis. In weak persons its progress is slow, and the modified appearances induce those physicians, who consider merely symptoms and not the nature of the diseases, to speak of different diseases. There are however, acute and chronic inflammations in the brain as in any other part of the body, and every where the same morbid changes may be observed.

"Serous effusion is not so unusual in adults as it is believed. It is often found in those who die of chronic mania, or who had become idiotic from that disease."—p. 47.

"In nervous apoplexy no effusion at all is detected on dissection. This will be the case if persons die of strong mental affections, of extreme and sudden joy, fear, anger; *quidam sub coitu periere.* Asphyxia in carbonic gas is a kind of apoplexy. The nervous apoplexy sometimes occurs in delicate, hysteric, and hypochondriac subjects, but it is not to be confounded with asphyxia, or apparent death, where all the powers are only suppressed, while their excitability remains. In such cases, indeed, it is literally true that we cannot have confidence even in death. Then putrefaction alone is a positive sign of dissolution."—p. 48.

The treatment of apoplexy founded on these views is highly appropriate.

In speaking of *Phrenitis*, our author expresses astonishment that inflammation of the brain is so seldom noticed; and a conviction, that it is often overlooked, from an erroneous idea that it is never present, except when accompanied by delirium. He likewise adds that he has dissected the brains of several who were treated for typhus, or brain fever, who appeared comatose, and whose cerebral functions were entirely suppressed, but whose brains shewed unequivocal marks of inflammation. There surely is nothing novel in this observation. Dissections prove, that, in the head, in almost all cases of fevers, there are evident signs of turgescence of the vessels, or of inflammation. Dr. John Armstrong says, "so far as my remarks have extended, the brain and its investing membranes are more subject to inflammation in typhus than any other parts of the system." And in the remittent or yellow fever of tropical climates, evidence is almost uniform of congestion or inflammation in the brain; and similar appearances were discovered in the brains of those who died of the malignant fever that so much prevailed among the military and inhabitants on the Continent towards the conclusion of the late war. Happily too, a much more rational mode of treatment has followed these enlightened pathological views of fever.

Dr. Spurzheim adds, that it is a common error to suppose that phrenitis occurs only in adults. We were not ourselves aware that such an error prevailed: at least, in England; we presume, therefore, that he must refer to foreign, and not to British practitioners. They who were acquainted with the practice of the late and lamented Dr. John Clarke, or who have read his "Commentaries on the Diseases of Children," will recollect, that he maintained that phrenitis or inflammation of the brain occurs more frequently in children than in adults. Every one knows how commonly it is the cause of hydrocephalus, to which children are more particularly liable.

On "*Hydrocephalus acutus*," our author is rather copious. He urges the necessity of distinguishing hydrocephalus, or dropsy of the brain, from hydrocephalus acutus; and with respect to the former, as he deems it to be incurable, cautions against the attempts of medical art to remove it. Of the acute form he describes three stages, and observes,

> "As in any other part, so in the brain, the frequency of its diseases coincides with the greatest energy of its developement.
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> "Scrofulous, weak, delicate, and also stout and strong children of a fair complexion, are subject to this disorder. Those whose brain is developed early and rapidly, and whose mental powers show a great and premature energy, are most liable to be affected with it. In such children, the activity of the brain is greater, and a larger quantity of blood is determined to it. Those who think that round heads are more subject to this complaint are mistaken. The most beautiful configurations of head are no security against this evil. The children of families, where other individuals have been carried off by the same affection, are exposed to the greatest danger."—p. 55.
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> "There are physicians who flatter themselves to have cured hydrocephalus acutus; others deny its possibility. I am of the opinion of the latter. I have already mentioned that, often, all the symptoms which accompany an effusion in the brain are observed,

and no serosity is detected on dissection. This is the case in children who die in a few days under perfect insensibility, strabismus, dilatation of the pupil, deep sighing, grinding the teeth, convulsions. Such cases may be treated with success: I have seen it done by Dr. Gall, and have done it myself; but we think we have only prevented the effusion. Cures of that kind happen in the first days, while the morbid action of the blood-vessels, and not effusion, produces the alarming appearances. I do not know any case of cure, when the progress of the disease was slow, and all symptoms of the third stage had appeared.

"It results that we consider hydrocephalus acutus itself as incurable: it can only be prevented."—p. 60.

The observations of our author upon hydrocephalus refer almost exclusively to the acute form, as it appears in children; but although unquestionably this is a very important part of pathology, when treating of diseases of the brain, yet it can scarcely be said to relate to insanity; because true insanity is chiefly confined to adults. But when treating, generally, of pathology, in its relation to insanity, it might have been expected that our author would have taken more notice of those collections of water so commonly discovered in different parts of the brains of maniacs, both in the ventricles and between the pia mater and the surface of the brain. Bonetus, Morgagni, and others, had made observation of the frequency of this occurrence; but attached no importance to it. But our departed and valued friend, the late Dr. S. F. Simmons, from whose intercourse we derived much practical information, considered it a fact particularly worthy of notice; and the more so, because of the uniformity of its occurrence, in cases where the patients were known to have been addicted to hard drinking: and, hence, from the morbid appearances, he inculcated the necessity, in mania, of lessening the determination of the blood to the brain, and of moderating the preternatural excitement of that organ.

The author now proceeds to the treating of "*Insanity, or Mental Derangements*;" and, in the first section, considers "Definition and Name." It were happy indeed if diseases could be reduced within strict nosological rules, and that the name should always describe the disease which we mean to refer to. There can be no question, that the confusion that has ever prevailed among nosologists in the classification and nomenclature of the various forms of Mental Derangement, has tended to retard our knowledge in all that relates to this subject. But this confusion has arisen rather from attempting too much, than from having done too little.

Nothing appears more absurd, if the idea of the influence of moon be discarded, than retaining the word lunacy, to express an insane state of the human faculties. Lunacy, from its etymology, conveys the impression that mental derangement is absolutely under the influence of the lunar system; an opinion which leads to inferences dangerous in medical as well as in juridical decisions. The word, Lunacy, therefore, as applicable to the state of the human mind, ought to be abolished from medical language. As a general term, there is none perhaps less objectionable than Insanity.

> "I have," says Dr. Spurzheim, "divided the functions of the mind into feelings and intellectual powers. Now from what I have said it follows that the derangements of the five senses only do not constitute insanity, and that there may be insanity without derangement of the intellectual faculties, as they are commonly spoken of. It is also certain that the diseased functions of the feelings are not always insanity. Our appetite may be deranged, and we may be fond of unusual savours, as of coals, chalk, &c.; physical love may be subject to various aberrations, as in unnatural desires; various idiosyncrasies may occur in other feelings;—the individuals, however, as long as they preserve a power over their actions, are not considered as insane, just as memory, judgment, and imagination, may be extremely weak and incorrect, and may commit continual errors without being considered as insanity. Yet there is insanity with respect to the feelings and intellectual faculties. *In what then does insanity consist?*
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> "With respect to the morbid affections of the senses, and to the errors of the intellectual powers, we are insane, if we cannot distinguish the diseased functions, and do consider them as regular; and in the derangement of any feeling we are insane, either if we cannot distinguish the disordered feeling, if, for instance, we really think we are an emperor, king, minister, general, &c. or if we distinguish the deranged feeling, but have lost the influence of the will on our actions, for instance, in a morbid activity of the propensity to destroy. Thus, *insanity*, in my opinion, *is an aberration of any sensation or intellectual power from the healthy state, without being able to distinguish the diseased state; and the aberration of any feeling from the state of health, without being able to distinguish it, or without the influence of the will on the actions of the feeling.* In other words, *the incapacity of distinguishing the diseased functions of the mind, and the irresistibility of our actions, constitute insanity.*"—p. 70.

Whether our author has here been more happy in his definition of what constitutes insanity than his predecessors, we shall leave to the judgment of our readers.

It is a great error, says Dr. Spurzheim, to consider the mind as one single power, or to derive the feelings from the intellectual faculties. "The mind is an aggregation of powers, which may act and be disturbed individually, as is the case with the external senses and voluntary motion. Every disturbance, however, of any faculty is not insanity, but merely the want of the faculties which constitute *liberty*." For an elucidation of the Doctor's meaning of *liberty*, which we profess we do not, as here introduced, understand, he refers to his work on the

Physiognomical System, *second edition*—a reference, by the bye, which is met with at almost every page, and which imposes on the reader the trouble, and perhaps the expense, of having the said System at his elbow as a *vade mecum* for whatever may be obscure in the work before us.

It is justly said, that, in medical jurisprudence, with regard to insanity, there are two considerations of high importance; viz. partial and intermitting insanity. We confess we are not entirely satisfied with the author's explanation of the former or partial insanity. He asserts that there are as many sorts of partial insanities as individual powers of the mind—a position with which to accord, we must first admit, without limitation, the existence and operation of his organs of the manifestations of the mind. But here we again beg it to be understood, that, although allowing that Drs. Gall and Spurzheim have exhibited, through the medium of comparative anatomy, many examples favouring their theory; and that we are ready to concede that their physiology of the cerebral functions is entitled to as much credit as any that has preceded it, yet we cannot so far approve as to adopt their reasonings and deductions.

Dr. Spurzheim proceeds to inquire, what are lucid intervals? Dr. Haslam, in his "Observations," has entered into an elaborate investigation of this question. It certainly is an important one, in a juridical point of view. But yet we think that, without the intervention of Mr. Locke, or any other metaphysical philosopher, an answer may be given that might satisfy the scruples of the law, as well as those of our own conscience. A lucid interval is that period when the mind is sane and capable of exercising a sound judgment. By a sound judgment, we do not mean as to one, two, or more particular points; but as to every point with which the mind was, previously to derangement, cognizant. But Dr. S. says, that in insanity experience shows that the intellectual powers may increase. To this we have to observe only, that any extraordinary and sudden increment of the intellectual powers above the ordinary standard of an individual's capacity, is as much a proof of mental aberration, as when they, without apparent cause, as quickly descend below it. If there be a preternatural and sudden display of intellectual powers, the judgment cannot be supposed to be coincident; and, therefore, that state alone is insanity; and the return to the ordinary understanding would alone constitute sanity. By way of illustration, Dr. S. says, "some persons cannot distinguish colours, and take red for green; but they see perfectly well the size, form, and distance of the external objects: hence their judgment at the same time is defective and lucid, or, if I may say so, sane and insane." But surely this may rather be called a morbid defect of the optics, than a defect of the judgment. Several similar cases are recorded: in some the cause was congenital; in others, hereditary; but in such cases the judgment, which implies experience and reflection, is in no way concerned.

Our author raises numerous queries "whether, in partial insanity or in intervals, the patients are to be considered as incapable of transacting their own concerns, and as free from all responsibility for their actions?" This part of the subject is pretty clearly understood in our courts of law. The query is merely put; not answered. As Dr. S. therefore throws no new light upon it, we may be excused from entering upon the consideration of it. Perhaps our readers may agree with us that there are some subjects discussed in this section, under the title of "Definition and Name," that appear rather out of place.

If it be objected that we have not attempted to make our author's divisions and inferences intelligible, we must plead guilty; and candidly confess, it is because we doubt if he be quite intelligible to ourselves.

"*Symptoms of Insanity.*"—The exordium to this section contains truths, which ought to be regarded in all disorders, as well as in those affecting the mind.

> "A description of morbid phenomena, which are observed in insanity, will guide our power of distinguishing the diseases, or the causes of the morbid appearances. It is certain that the majority of medical men have a too great tendency to consider the symptoms as the disease, and it is particularly the case in insanity. Symptoms, however, are only deranged functions. Now the same function can be deranged by various causes, and the same cause may derange various functions, and hence produce various symptoms. Fever alone is not the disease, but merely a morbid phenomenon; and the circulation of blood may be accelerated by different morbific causes. In the same way, inflammation will produce various symptoms according to the functions of the parts which are affected. Refrigeration may produce head-ache, sore eye, sore throat, tooth-ache, cough, vomiting, diarrhœa, &c."—p. 79.

> "In insane people the functions of automatic life, such as digestion, circulation, respiration, nutrition, secretions and excretions, may or may not be disturbed; their disorders may take place in various degrees; and on account of the absence or existence of such symptoms, the elucidation of insanity will only become more simple or complex. Their detailed consideration belongs to the pathology of automatic life, I here intend to relate only the disorders of animal life."—p. 79.

It is evident, however, that nearly the whole contents of this section are compiled from other writers, and little that was not before known is added. We may plead the authority of our author himself to justify this observation; who, as if anticipating such an impression, gratuitously allows that he has "preferred extracting examples from other writers, *not because he has not seen such cases, and sometimes repeatedly, in different mad-houses,* but because such facts, being admitted by other observers, will perhaps be more easily admitted by adversaries."

The next section is upon the "*Division of Insanity;*" wherein Dr. S. inquires whether insanity is a generic term, and may be divided into several species? He states that the oldest division known is that by Hippocrates, into melancholia and mania; in which he is followed by Galen. Perhaps it is not very material for our present purpose; but as Hippocrates is quoted as authority, we cannot help noticing that we believe the Sage of Cos no where mentions *Mania.* His division, if it deserve that distinction, is into *Phrenitis* and *Melancholia:* the former of which he derives from *Phrenes,* septum transversum, or diaphragm; which, by the antient physicians, was supposed to be the seat of the mind and wisdom, and also of genuine phrenitis. *Insania* is described and treated of, and may be considered synonymous with mania. But it is evident that Hippocrates had no very definite idea either of phrenitis or insania; for although he describes each as arising from different causes, yet in his book *De Affectionibus* it would appear, that he sometimes confounds them: Ubi perpetua cum febre insania *(phrenitis dicta)* occupat, &c.

Dr. Spurzheim takes an ample review of the modern divisions of insanity. But of what use, we would ask, are these divisions and subdivisions? Were they founded on causes, physical or moral, then they might be reduced to some fixed principles; but as these nosologists have taken symptoms as the basis of classification, such divisions must ever prove as instable and variable as the symptoms themselves. We agree with the author, that Dr. Hallaran's is the least exceptionable division; because resting strictly on causes only. But neither can we admit the division of that observant physician to be correct; since he refers one of his species to *mental causes,* and denominates it *mental insanity;* whereas we are satisfied that *insanity always has its origin in some derangement of organic functions;* yet that the *effect* may be elicited by a mental, *i. e.* moral cause. With this opinion we find Dr. S. coincides; but refers to the section on the "*Causes of Insanity*" for his reasons. The most common division is into mania and melancholia; but this is entirely arbitrary, and is purely regulated by the symptoms. Willis notices this division; but at the same time infers how little it can be depended upon, by adverting to the frequent alternations from mania to melancholia, and *vice versâ.*

"Another division might be established according to the extent and degree of insanity, viz. the faculties of the mind may be entirely prohibited from manifesting themselves; or their activity may be too great; or their natural manifestations may be altered or alienated. The state of inactivity, where the faculties cannot manifest themselves, is imbecility or idiotism. It is to be remarked that this expression is commonly applied to the intellectual faculties, because understanding was considered as the basis of the mind. According to our investigations, however, it may happen with the feelings as well as the intellectual faculties. Such complete inactivity may exist in every primitive faculty of the mind, or in several, or in all together. It may be from birth, or from a later event. Experience shows that it is so; and only our anatomical and physiological discoveries of the brain, and philosophical inductions, can explain such facts. Different names, therefore, ought to be pointed out. *Idiotism*, for instance, might be called the *diseased inactivity* of any faculty of the mind from birth; and *fatuity*, if the patients have manifested the powers of the mind, but have lost their activity by an eventual cause. There is then a partial and a general idiotism, and a partial and general fatuity.

"A second sort of derangements of the manifestations of the mind is, when its faculties are too active, and beyond the influence of the will. This is, perhaps, never the case with all faculties; but it happens often, partially, with the propensities, sentiments, and intellectual powers, as may be understood by the symptoms which I have related in the preceding section. Such hallucinations may be continual or intermittent, and the latter regular or irregular. Moreover, in succeeding fits, the too powerful activity may take place in the same faculty, or in different mental powers; so that, for instance, in one fit the patient despairs, and in another commands the world. Volumes of facts illustrate this truth."—p. 96.

There are passages in Dr. Spurzheim's writings, wherein his tenets are so intertexted, that it is impossible to render his meaning, without liability to misinterpretatation, in any other than his own words; and the above is one of them. On such occasions, it is most candid to let him speak *in propria personâ*.

The other divisions of deranged manifestations of the mind are, when its faculties are too active and beyond the influence of the will; where they are altered or alienated "in their specific appearance, that is, they may be morbid in quality," as when the eyes see every object red, the taste is pleased with chalk, or when the patient fancies he has the itch, or is made of butter, &c. Another is, as to the event, either curable or incurable; that is, the cause can or cannot be removed: a division of all others certainly the most difficult; and which, if the learned Doctor could accurately define, he would merit immortalization.

"*Causes of Insanity*." No argument is requisite to shew the importance of this section. It is here we ought to look for that illumination which the researches and discoveries of Drs.

Gall and Spurzheim may be supposed to have thrown upon this occult subject. The causes of insanity being once satisfactorily developed, we may trust that the exertions of human genius would not be vainly exercised in relieving the greatest affliction to which man is doomed.

First, Dr. Spurzheim examines whether there are diseases of the mind, or whether the proximate cause of insanity be only corporeal; second, the seat of this proximate cause; and, finally, the nature of the causes of insanity.

I.—*The proximate cause of insanity is corporeal.*—Former writers, says our author, have spoken of diseases of the mind; some have admitted both mental and corporeal causes; and a few have acknowledged only corporeal diseases; and with the latter he decidedly agrees.

> "The idea of mental derangements must not, however, be confounded with mental causes. Certainly the manifestations of the mind may be deranged; but I have no idea of any disease, or of any derangement of an immaterial being itself, such as the mind or soul is. The soul cannot fall sick, any more than it can die. As this point is so important in practice, when it is necessary to act and to cure, or when institutions for such unfortunate creatures as are insane persons, are to be established, I shall enter into more details. I consider the mind in this life confined to the body, of which it makes use; that is, the powers of the mind want instruments for their manifestations; or, these manifestations are dependent on the instruments; cannot appear without them; and are modified, diminished, increased, or deranged, according to the condition of the instruments or organs."—p. 101.

Without adopting the author's language, we do not hesitate in coinciding with him, that there can be no such thing as a *disease of the mind;* for the mind, being immaterial, is insusceptible of disease like an organic and material substance. Human judgment must be absolutely freed from this much-contested and prevalent, but erroneous, impression, ere any improvement in the treatment of insanity can be effected. We may here, perhaps, be permitted to quote what we have elsewhere expressed, which will shew that we have not imbibed our opinion from Dr. Spurzheim that "insanity always originates in a corporeal cause: derangement of the intellectual faculties is but the effect*."

The origin of the perplexities in which physicians have been involved regarding the causes of insanity, may be traced to those metaphysical dogmas with which philosophers and psychologists have engaged when studying the human mind. We are original enough to think, and bold enough to avow, that we believe the causes and the cure of insanity would have been better understood, if Descartes, Condillac, and Locke, had never written at all; and that whenever derangements of the mental faculties are treated as arising from corporeal causes, and independent of all metaphysical and abstract reasoning, a more successful method of cure will be the happy consequence.

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* *Some Observations on the Pathology of Insanity, by* G. M. Burrows, M.D., *Repository,* vol. vi. p. 279; *Cursory Remarks on a Bill for Regulating of Mad-Houses, &c. &c. by* the Same, p. 102.

Dr. Haslam, who cannot in general be accused of timidity, seems to be afraid, however lightly, to touch this delicate string, and asks pardon (vide Observations on Madness, p. 240) for having so done. But it is evident, that, contrary to his conviction, he is only acquiescing with popular notions. We shall, however, dismiss the subject for the present; merely remarking, that every day adds strength to our opinions. The lights of pathology will soon disperse the darkness of mysticism; and the period is not far distant, when it will be as great a scepticism to doubt the corporeal origin of mental derangement, as hitherto it has been to consider mind dependant on matter.

> *Ignoratur enim, quæ sit natura animaï;*
> *Nata sit, an contra nascentibus insinuetur.*

We are not, in regard to these mysteries, any wiser than Lucretius.

Dr. Spurzheim investigates whether "*Insanity is Connate and Hereditary,*" and quotes several high authorities, to which he adds his own, to convince us that it is both. If experience be authority, there can be no room for doubt. This is certainly a question deeply implicating the happiness of society at large, as well as of individuals; and on which none ought to decide without the maturest consideration. But on this point we have no hesitation, for it is one which we have seriously examined. How is it possible to be sceptics, when we know families in whom insanity has been manifested generation after generation; and others, in several of whose children of the same generation the most decided insanity has been exhibited? If we grant that insanity were a disease of the mind, we might side with those who, because the doctrine militates against some favourite hypothesis, deny the possibility of its propagation; but, believing as we do, that insanity is the effect of diseased organization, or of some accidental lesion, we as entirely credit that it is connate and hereditary in man, as we do the truth of the Bakewellian principle of breeding "in and in" in the brute creation. Corporeal beauties and defects may be propagated, and so may those of the mind. That insanity does not necessarily follow because a person is born of insane parents, we admit; for where it exists in a family, perhaps there never was an instance of all the children experiencing mental alienation. Among a number, it is highly improbable that all shall be placed in similar circumstances in life; therefore although all may have the same physical organization, yet the particular exciting moral or physical cause which has called forth insanity in one child may not have occurred to another, who may therefore pass through life without manifesting a symptom of derangement. But suppose, if it were possible, that each should be exposed to similar exciting causes; would not all be insane? Rarely more than one parent is predisposed to, or has been insane, therefore the probability of wholly escaping hereditary taint in a family may be equal; for a child may partake much of the constitutional qualities of one parent, and little or not at all of those of the other; hence, some of the children of such a union may be quite sane, and others insane. This appears to us just reasoning; and we think we have met with facts that corroborate it. Hence then, notwithstanding the puling of some pseudo-philanthropic reasoners about the misery which a belief of hereditary taint would entail on very worthy families, we who entertain an opinion that an opposite impression is encouraging the propagation of evil, would caution those who value their domestic happiness, to be wary in their matrimonial connections.

"*Age has an Influence on Insanity.*" Our author remarks, that insanity, idiotism from birth excepted, is the most frequent between 30 and 40, less between 20 and 30, still less between 40 and 50, and gradually diminishes, and is very rare after 60. But he assumes this, as indeed he does most of his data, upon the authority of others. We must doubt, however correctly kept, if the registers of any public establishment furnish true evidence as to the age when insanity is first manifested: at least the tables of the Bicêtre and La Salpêtrière at Paris, and those of Dr. Esquirol's private house, differ remarkably in their results. In examining this part of our subject, it should be remembered, that few on the first attack are taken to a public establishment, in comparison with those admitted into a private one; consequently the returns will not tally. Upon a much more limited scale, of course, we have had a larger proportion of insane under treatment after 60 than this account allows.

Dr. Spurzheim thus accounts for the rarity of insanity in children:

> "The cause that children do not appear insane, strictly speaking, in my opinion is, because their cerebral organization is too delicate, and does not bear a strong morbid affection without entirely losing its fitness for the mind and endangering life. The disturbances of the organization appear merely as organic diseases, because

the functions are entirely suppressed. Later, in proportion as the brain becomes firmer, it bears morbid changes longer without becoming entirely unfit for its functions or causing death. Its functions then are only disturbed, and appear under the symptoms called insanity."—p. 106.

The justness of these observations is, we think, strengthened by the fact, that water is most frequently found in the ventricles of the brains of the insane, without any disturbance to the animal functions having been at all manifested; while there is every probability, that water is never effused into those cavities in young children without the most violent derangement of those functions, and that the general effect is death.

"*Sleep is often disturbed in Insanity.*" Uneasy and disturbed sleep, or entire sleeplessness, is, as well as of other diseases, a precursory symptom of insanity; and all the delusive impressions of dreams take place in insanity. Hence Dr. S. infers, that

> "as disturbed sleep, sleeplessness, and dreams, in common life and in other diseases, are considered as the effect of corporeal causes, why should we, in insanity, admit another cause for the same symptoms?" —p. 113.

The concluding results in his first division of causes peculiarly deserve our approbation: we would not wish to speak more to the point:

> "Thus, from observation and reasoning, it results that the proximate causes of the deranged manifestations of the mind must be considered as corporeal. The soul, in its deranged manifestations of feelings and intellectual powers, is no more diseased than in the disturbances of the five senses, and voluntary motion. In palsy, the cause is not looked for in the mind, but in the instruments by which will is propagated, or voluntary motion performed. In the derangements of hunger and thirst, of hearing and seeing, smelling, tasting and feeling, the seat of the proximate cause is admitted in the respective organs by which these powers are manifested. It ought to be the same with the internal operations of the mind. Indeed, a too assiduous attention has hitherto been paid to the developement of moral or metaphysical causes, while the corporeal, indisputably more within the sphere of human understanding, have been greatly neglected. If the mind were diseased, it ought to be cured by reasoning. I think however with Haslam, 'the good effects which have resulted from exhibiting logic as a remedy for madness must be sufficiently known to every one who has conversed with insane persons, and must be considered as time lost.'

As to the effect of reasoning with the insane, we shall repeat the proverb: *Insanus omnis furere credit cæteros.*

II.—*The proximate Cause of Insanity is in the Brain.* The considerations under this title are infinitely varied. We shall select the only matter of them which appears most deserving of comment.

The Doctor assumes that the brain is the organ of the mind, and that the manifestations of every primitive faculty of the mind depend on a peculiar part of the brain,

> " and if all primitive powers of the mind and their respective organs be once ascertained, it is evident that the cause of insanity will be looked for in the brain, and the cause of the deranged manifestations of every special faculty in a peculiar part of the brain."

but he confesses, that his knowledge in this particular is not sufficiently advanced.

On the subject of "*Morbid Phenomena of the Brain in Insanity*," we are, as often before, referred to Dr. Spurzheim's work on Physiognomy. But he truly remarks,

> " I add, the brain is an organic part, and we must not expect to find more in it than in any other part of the body. Nay, as its organization is the most delicate of the whole frame, organic changes may occur which are imperceptible on dissection; since this is also the case in other parts, which may be affected by various diseases, without offering the least morbid appearance after death. The stomach, for instance, and intestines, have often suffered for a long time, and the most skilful anatomists cannot detect any thing different in their structure after death. On the other hand, neither vomiting nor want of appetite have taken place in persons in whose stomach mortification was found after death. Abscesses have been observed in the livers of persons who have died without any one of the common symptoms of hepatitis.
>
> " I know that anatomists and surgeons of celebrity relate that they could not find any morbid appearance in the examination of insane persons after death. I reply, that various obvious differences, as to size and form, of the brains of different sexes or individuals, have also been overlooked, while they may be easily observed. I really think that all morbid effects which are observed in other parts may also be distinguished in the brain, such as a too defective or too large developement of its substance, distension of blood-vessels, inflammation, suppuration, serous effusion, dropsy, rupture, or ossification of blood-vessels. I even maintain that morbid changes of the physical appearances of colour and texture might be pointed out in the brains of many who have died insane, if those who examine them were better acquainted with the appearances of the brains of individuals who had no particular determination of blood to the head, and preserved their manifestations of the mind to the last moment of life."—p. 116.

They who contend, like ourselves, that insanity actually depends on some alteration in the organic structure, will give these sentiments of the author their assent. Modern researches in morbid anatomy have proved beyond dispute, that the bodies of those who have died under any species of insanity generally exhibit some proofs of diseased structure or of deranged action; and we are clear, that if the inquiry were always conducted with due skill and care, there is not one in whom some morbid change would not be detected. In the present state of our physiological and pathological knowledge, it would be rashness to pronounce there was no alteration of parts, and consequently no disease, because we could not discover any. It is pathology only that can check the extravagance of hypotheses, and develope the true causes of insanity.

(To be continued.)

II.

Account of an Epidemic Small Pox, which occurred in Cupar in Fife in the Spring of 1817, *and the Degree of Protecting Influence which Vaccination afforded; accompanied with Practical Inferences and Observations.* By HENRY DEWAR, M.D. F.R.S.E. &c. 8vo. pp. 38. Cupar, 1817.

IN our last Retrospect of Medical Science, we stated, with much regret, that we had received numerous reports of the failure of vaccination as a preventive of small-pox; and ventured to offer some suggestions of our own as to the causes of these unfortunate occurrences. The little tract before us shews that these failures have not been confined to the southern parts of the island*. It gives the history of an epidemic small-pox, which raged very widely in Cupar in Fife, although the greater proportion of those that were attacked by it had been vaccinated and passed regularly through the disease. The profession is certainly indebted to Dr. Dewar for having brought the particulars of this epidemic before it; as well as for the opinions he has been led to form on the subject; and we trust his example may create such an impartial investigation as shall fairly settle the question: for, although we are most anxious to support vaccination, having been convinced, from our own experience, of its efficacy in preserving the constitution from the influence of variolous infection, yet, we are still more desirous to see the current of truth, in all medical inquiries, run clear and unpolluted.

Before entering upon his subject, Dr. Dewar gives a brief sketch of the various opinions of authors regarding the causes of some of the failures of vaccination in preventing small-pox; and concludes with remarking, that, "in investigating truth, one of the first steps necessary, is, to make ourselves sensible of the obstacles to it which exist both within and around us;" advice which it will naturally be expected he has endeavoured to adhere to in pursuing his present inquiry.

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* Since writing the above, we have been informed, that an epidemic small-pox has also prevailed at Kerry, in Ireland, in which many who had been vaccinated were affected.

A report having reached our author that an epidemic small-pox raged in Cupar in Fife, he paid two visits to that place; one on the 31st of May, and the other on the 4th of June; with the view of seeing the cases, observing the appearances in those that had undergone vaccination, and collecting every information regarding them, both from the domestic attendants of the sick, and the medical gentlemen under whose care the majority of the patients were placed. He found that "the multitude of simultaneous cases gave the best assurance "that all" proceeded from the same radical contagion." He received the accounts of seventy cases; fifty-four of which "were said to have gone through the vaccine disease," and "sixteen had either not been inoculated, or no vesicle had appeared after the insertion of the vaccine virus." In the whole there was a well-marked eruptive fever; and, except in "eight of the inoculated, and two of the uninoculated," none of the cases were mild through their whole course. One only of those who had been vaccinated died; while, of the sixteen who had not undergone that operation, not less than six deaths occurred: "but, of all who were attacked, none had been inoculated with the small-pox." With regard to the vaccinated persons, however, it must be remarked that in ten only "the operation had been performed under the inspection of medical practitioners. The rest were inoculated by midwives, clergymen, and other persons not of the profession." The severest case, with one exception, occurred in an individual who had been vaccinated by the late Dr. Grace: and this we shall extract, as a specimen of the mode in which the others are detailed.

"Margaret Welsh, aged 11, daughter of a baker, delicate in her habit of body, was vaccinated by the late Dr. Grace at the age of five weeks. The parents can give no particulars relative to febrile symptoms, but say that Dr. Grace was perfectly satisfied.

"She had a nervous fever two years ago, and has been more delicate ever since, especially for two months before her late attack.

"On Thursday the 13th of March last, complained, while at school, of head-ache; was a little better on coming home; complained also of coldness in her back and limbs.

"Friday, continued sick the whole day; in the evening insensible.

"Saturday, insensible. This evening a scarlet rash was observed on one of her cheeks.—Was insensible* in the night. The eruption extended, and supposed to be the measles.

" Monday, Dr. Grace declared it to be the small pox. The eruption continued to come out. On Tuesday it became stationary for some hours, neither going back nor making any progress. Some wine was ordered, after which the pustules rose above the skin.

" This day they began to fill, and on Wednesday, Thursday, and Friday, continued to fill.

" Saturday, eruption began to decline in the order in which it had appeared. She yawned the whole day, and had a bad night. Apprehensions were now entertained that next day the secondary fever would supervene, and her symptoms assume a still more dangerous character.

" Sunday. Contrary to the apprehensions entertained, the fever happily left her, and never returned. The eruption followed a regular progress of desquamation. The nails of the toes separated, but not those of the fingers.

" At present, (May 31,) face appears to have small but numerous pits. Previously to this attack, she had a slight tenderness in the interior of the nostrils. This has disappeared, but an inflammation of one eye, which she also had previously, has increased and extended to the other."—p. 9.

The other cases which were ascertained to have been vaccinated by regular practitioners, did not particularly vary, except in point of severity, from that which we have just quoted. In the other forty-four " the disease appeared in various degrees of severity :" in about eight it was remarkably mild ; and in none was there any secondary fever. We extract the fatal case.

" David Philp, son of a master-wright, aged 11, was vaccinated at an early age.

" On the present occasion, was taken ill on a Sunday with a complaint in his head. The eruption appeared on the following Tuesday. On Wednesday, he was seized with a vomiting which never left him. On Tuesday and Wednesday, the interstices of the pustules were occupied with a general rash similar to measles. This however went in. Mr. Wiseman, a medical student, who attended him, says, that the pustules were regular and thick. He continued to complain much of his head. Leeches were applied on the Thursday, and at the time he received considerable relief. Afterward however he complained of severe pain in the abdomen and small of the back. The bowels were not constipated, but the stools were preternatural, and resembled minced meat. Petechiæ were observed on his breast before his death, which took place on Friday the fifth day of his illness. After death his body was black with petechiæ."—p. 15.

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* " This word in its provincial acceptation, and as here employed, has its meaning extended so as to include *Delirium* as well as *Coma*."

The first of the cases of those patients who had never been inoculated, detailed by our author, was the first or the second case of the disease that appeared in the town, and by which the contagion appears to have been spread. The patient was a girl of thirteen years of age, the servant to the keeper of the jail, who had been employed by the magistrates, about the end of January, to burn the clothes of a child which had laboured under small-pox, and belonged to a travelling mendicant from Stirling. This girl died, as did three out of four of her sisters who visited her and caught the disease. The other persons who died, in this class, were, a weaver's wife who was in a state of pregnancy when attacked, and another adult 30 years of age. In the weaver's family, three of the children, who had been vaccinated, and were constantly with their mother during her illness, "escaped the disease."

Having detailed the particulars of the cases, Dr. Dewar next proceeds to state the inferences which appeared to him "to be warranted by the facts." He "found no particular reason for disputing the genuineness of the vaccine disease which the fifty-four patients had received by inoculation:" for although a comparatively small number only were vaccinated by medical men, although no record of vaccinations was kept, and there was no instance of the inoculation being repeated, "except when no vesicle appeared," yet it is justly remarked, "if the generality of the Cupar vaccinations were spurious, we must pronounce the whole vaccine disease as known in that part of the country to be spurious. Speaking of the test proposed by Mr. Bryce*, which ought to be invariably practised, our author proposes to make the second insertion

> "at the most distant part of the body from the first, because the locality of affections may have various degrees. An influence may be conceived to extend from one point to a considerable portion of the body, without reaching the whole. It might therefore be somewhat more satisfactory, and could be liable to no objection, to insert the test virus in the thigh or leg of the opposite side, instead of the opposite arm, especially as corresponding parts on the two sides of the body might be supposed to have a peculiarly prompt tendency to put on the same species of action. I have no suspicion

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* Mr. Bryce's test consists in making a second insertion of the vaccine matter two inches below the first, taken from the rising pustule at the end of the fifth day. If this produces a vesicle, which, although smaller than the other, yet follows the same stages, only with an accelerated progress, so that the crusts of both are formed nearly at the same time; then we may consider that the constitution has been fully affected.

that any difference would actually arise from this cause: but we ought to avail ourselves of every atom of additional security."—p. 30.

Admitting that all the fifty-four patients had had the true vaccine disease, and that all the cases detailed were instances of genuine small-pox, the conclusion is, that vaccination "did not ultimately prove a certain preventive of small-pox; yet it evidently gave, in some instances, a remarkable temporary or occasional protection;" a conclusion which leads Dr. Dewar to propose the following queries:

> "Is the protection which it affords merely temporary? Does it diminish in proportion to the lapse of time after the inoculation? Or, is it a casual and uncertain quality, the laws of which elude our research? depending on circumstances of weather? on constitution? on the successions which take place among other diseases, or definite changes of habit occurring in the individual? or on the peculiar qualities of different specimens of contagion? or on other circumstances which elude our notice?"—p. 32.

The means which the National Vaccine Establishment possess of circulating queries, might facilitate very much the inquiry.

In supposing that vaccination affords "a *possible* or *probable*, but not a *certain* protection from an attack of small-pox," Dr. Dewar conceives that in this respect there is a marked distinction between it and the variolous inoculation. But this opinion is founded on the assumption that the variolous inoculation is a *certain* preventive of natural small-pox; a point far from being established; but, on the contrary, rendered highly problematical by numerous cases on record. At all events, the cases he has brought forward, our author conceives, justifies the conclusion, that vaccination at least "secures the constitution against the secondary fever, the principal danger of small-pox." Anxious as we are, however, to regard this as a positive law of vaccination, we cannot admit it, unconditionally, upon the evidence brought forward in this little tract; although, from what we have seen ourselves and heard from others, we think it extremely probable: and hence fully accord with Dr. Dewar's "practical conclusion, that vaccination ought still to be valued and universally recommended." He finishes his remarks with the following aphorisms, which he regards "worthy of being remembered for our practical guidance."

> "That *by vaccination we do not positively endanger life.* By the old inoculation, a disease was produced which was sometimes fatal. The danger artificially created was immediate, while that which it was intended to obviate was remote. Yet the former was comparatively so small as to prevail on the reflecting part of the community to concur in encountering it. In the vaccine inoculation however, we are saved all these painful calculations, because we

communicate an affection attended with no danger, and the power of which over the constitution is great but silent.

" Again, allowing that the individual who has been vaccinated is equally liable to small-pox with any other, (which no person will be bold enough on the large scale to assert,) *he is not liable to it in the same form as if Vaccination had been omitted.* This point cannot be longer doubted; and, if we proceed at first on the supposition that the small-pox succeeding Vaccination is exactly equal in risk to the disease which used to be communicated in the old inoculation, it must be allowed that *we gain time in the life of the individual by preferring Vaccination.* He is not subjected to the risk in the first instance. Years may elapse before he is exposed to the contagion of small-pox: When so exposed he will in most cases be protected from it by the cow-pox; and, if at last he is attacked, he encounters a risk only equal to that which would have been earlier incurred by a previous inoculation with variolous matter.

" But this supposition is much less favourable than the truth. The risk even at that late period is far from being so great. *The small-pox occurring in a vaccinated person is much safer than the inoculated small-pox.* It has never been maintained that the disease induced by the variolous inoculation was always exempt from the occurrences of secondary fever. On the contrary, some of the few who died of the inoculation were cut off by that fever.

" The most unfavourable conclusion therefore that can be admitted is, that *there may be the same risk of deaths from small-pox after vaccination, as of deaths in the early stage of the inoculated small-pox.* Thus the risk is not only deferred to a later period, but is ultimately far inferior to what it was under the use of the best inoculation previously to the discovery of the cow-pox, and is in fact reduced almost to nothing. What more can be reasonably desired? We do not expect to provide an absolute security from all accidents."—p. 36.

In closing this pamphlet, we must repeat, that the thanks of the profession are certainly due to its author, for having laid before it the facts he has recorded. The subject is one of too vital importance to the welfare of the community to be lost sight of; but it must not be contemplated as a party question; nor be shackled by partiality for prior and long-maintained opinions. Experiments should be made, and the results faithfully and accurately recorded, without any bias that might tend to mislead; for while truth alone is the object of research, it must be embraced, should it even destroy our most sanguine hopes, and utterly overthrow the proud monument which we yet fondly flatter ourselves has been raised to the honour of Medical Science, by the introduction of vaccination.

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SELECTIONS postponed for want of room.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

ANATOMY, PHYSIOLOGY, PRACTICE OF MEDICINE, AND SURGERY.

Dr. GRANVILLE's *Communications on the Progress of Medical Science in France.*

LETTER V.

"IN my last letter I scarcely mentioned any subject relative to surgical practice. The fact is, that great operations, as well as curious and important cases requiring them, do not occur, fortunately, every day; and the usual practice, of even a Dupuytren, a Boyer, or a Dubois, offers little that can convey either information or excite curiosity.

"I have, however, reason to believe, that we shall soon be called upon to judge, once more, of the genius and great dexterity of the first of the three above mentioned practitioners, in an operation of a novel kind for the extraction of urinary calculi. I mean the cutting through the rectum into the bladder, in man of course; which operation has already been performed more than once, and with success. For the present, I am not at liberty to say more; but in the *Annuaire des Hopitaux*, the first number of which is intended to appear at the conclusion of this year, the author will give a detailed memoir on the subject, with plates.

"A case of tetanus, in a young and strong subject, having occurred to the same gentleman at the Hotel Dieu, he was induced to treat it by means of opium. He had reached the dose of twenty-four grains daily, and the patient had seen his existence protracted to the thirteenth day after the accident, with an evident amelioration in all the distressing symptoms attending this terrible malady; when the patient, by his imprudent conduct it is said, died on the morning of the fourteenth day, just as the greatest hopes of his recovery were entertained.

"A case of rather an extraordinary nature has been communicated to the Faculty of Medicine by M. Laroche Danjeais. It relates to a wound caused by a large thorn which penetrated into the stomach of an individual on falling, so as to give free issue to its contents. A suture was made, the wound healed readily, and the patient was perfectly cured. M. Percy has ascertained the fact to be perfectly authentic.

"The fatality attending the cases of cystocele has again been illustrated, by an instance which has lately occurred at one of the hospitals, and where a portion of the bladder protruded through the inguinal ring. On attempting to reduce the hernia by the taxis, urine was made to flow through the urethra. The patient died in a few days.

"A preparation illustrative of an important point in physiological anatomy has lately been made in one of the Pavillions of the *Hospice de Perfectionnement*. In injecting the veins of the vertebral column, in order to ascertain their distribution in a clearer manner than has hitherto been done, and while pushing the injected fluid through the abdominal vena cava, a communication was discovered of the lumbar veins, and several branches of the azygos with the thoracic duct, particularly at its origin near the reservoir of Pacquet. The duct was distended by the injection thrown into it through these communications up to one half its length; a circumstance which clearly demonstrates that the fluid could not have proceeded from either the subclavian or the internal jugular veins.

"In anatomy, I have further witnessed two curious facts, which I shall relate, as likely to throw some light on a point connected with medical jurisprudence; towards which science, I have directed the small portion of time which my other numerous occupations leave to me in this capital. The first I shall allude to, is the dissection of twin male children, born at *la Maternité* last month, after the fifth month of gestation. Neither of them gave the least signs of life; nay, the last born came away completely enveloped by the membranes, which had never broke, and contained the usual quantity of the liquor amnii; the placenta and membranes of the first born, quite distinct from those of the other fœtus, had been discharged at least twenty minutes after without any accident. We examined the lungs with a view of making some experiments on the pretended signs, said to be exhibited by these organs, of respiration having taken place. We found them having a compact appearance, something like the substance of the liver, but of a fine light flesh colour. On throwing them into water, they floated on the surface of it, and this they did even when cut into pieces. The whole mass weighed 216 grains. This appeared the more singular to us, as when acting upon the lungs of another fœtus of seven months, which had lived several minutes and had evidently breathed, they sunk in the fluid; leaving us in the perplexity which this double fact is calculated to throw on the well-known aphorism derived from similar experiments in cases of asphyxia, strangulation, infanticide, &c.

"The next case is this: a woman was brought to bed, at the same establishment, of a boy at his full time, strong, well made, and apparently healthy. After nine hours of an existence, which had not created the least uneasiness, he was found suddenly dead by the side of his mother, who was fast asleep at the time. A suspicion arose that the child might have been purposely or accidentally suffocated. An examination of the body took place, and, on opening the abdomen, we were rather surprised to find the stomach, spleen, duodenum, and part of the free border of the ileum wanting. But on pursuing the dissection further, it was soon found that those viscera had passed into the left cavity of the thorax, through a space left by the absence of the two posterior thirds of the diaphragm, where they so pressed on the heart, as not only to push it from left to right, but also to turn it in such a manner that the posterior became its anterior part, with respect to its position in the thoracic cavity. If I am not mistaken, however, some such similar cases of mal-conformation have been related by different authors.

"Professor Dupuytren intends shortly to give a course of lectures on pathological anatomy at the *Hotel Dieu*, in which he will chiefly descant on organic transformations, and illustrate his details by numerous preparations, and occasionally by actual dissections.

"A man came to the *Hotel Dieu* some days ago with a singular complaint. He had, from a fall, received a wound just above the left eye, and the integuments had presented, at the time of the accident, a triangular flap, the free apex of which was formed by one of the angles. A surgeon re-united the wound and healed it by the first intention, after having examined the bones, leaving a small opening only in its pending part for the issue of any purulent matter that might be formed beneath its integuments. Some days after the cure, while sneezing, the man was not a little astonished to find a tumour forming itself just beneath the scar; and his anxiety became greater, when he found that on coughing the swelling increased in extent both to the right and left. Succeeding fits of coughing have since so augmented the tumour, that it has surrounded the head; and there can be but little doubt, as M. Dupuytren suspects, that this is an emphysema, produced by the air penetrating through the nose into the suborbital cavity, from which it escapes by a fissure, occasioned by the fall of the frontal bone, under the integuments which it raises, and has gradually detached all around as it progressively accumulates. What modus operandi should be adopted in this case?

"Several works on different subjects of medical science have been published since I had the pleasure of writing to you before my visit to London. Amongst them, I must notice in a more particular manner the first volume of D'Alibert's *Nosologie Naturelle*, which, as I gave you reason to expect, was published in April last, forms the subject of conversation at present amongst the medical profession. D'Alibert has endeavoured in this great work to class the numerous maladies by which mankind is afflicted, in families, according to the received method of the naturalists with respect to vegetable, animal, and mineral bodies. His classification is founded upon three great divisions of the phenomena which seem jointly to contribute to the maintenance of the existence of man. These relate, 1st, to the increase and preservation of man; 2dly, to his numerous relations with the various objects that surround him; 3dly, to the mysterious proceedings of the reproduction of the species. These three divisions he calls, *vie d'assimilation, vie de relation, vie de reproduction;* each serving for the foundation of a class. The first class is divided into ten families. In the 2nd and 3rd there are fourteen families, forming a whole of twenty-four. Each family is subdivided into genera, and a genus often offers one, two, or more distinct species.

"D'Alibert in writing a system of nosology, or rather in endeavouring to detail in the natural order of their occurrence (for his cannot be said to be a system) the maladies affecting the human body, has thought it necessary to adopt a new nomenclature whenever the establishment of new divisions required it, and even when the insufficiency of old denominations for his purpose demand it. Thus the names of the classes, and all those of the twenty-four families, are new. Not so with all the genera, and much less with the species.

"The first volume contains the families of diseases belonging to the first class, to the number of ten, as I have already stated, and may be thus reported:

"1st Class, *Trophopathies.*

Morbid affections attacking the organs to which the faculty of assimilation is essentially imparted:

"1st Family, *Les Gastroses* — morbid affections of the stomach — 13 Genera; Polyorexia, Hétérorexia, Dysorexia, Polydipsia, Adipsia, Dispepsia, Lienteria, Autemesia, Gasteralgia, Gastritis, Squirrhogastrie, Gastrobrosie, Gastrocelie.

"2nd Family, *Enteroses*, 10 Genera: — 3rd Family, *Choloses*, 11 Genera:—4th Family, *Uroses*, 12 Genera:—5th Family, *Pneumones*, 8 Genera: — 6th Family, *Angioses*, 19 Genera:—7th Family, *Leucoses*, 12 Genera: — 8th Family, *Adenoses*, 5 Genera: — 9th Family, *Ethmoplecoses*, 6 Genera: 10th Family, *Blennoses*, 11 Genera.

"The *symptomatic description* of these and their species, their history and treatment, and a preliminary discourse detailing the progress of medicine from the earliest times to our days, written in a very elegant and masterly style, form the contents of the first volume; which is printed on grand *papier velin*, in quarto, in a manner so splendid, that for a long while no medical work has been published with so much display of typographical brilliancy. Add to this, that the work is illustrated in various parts with plates, which may be called highly finished miniature paintings, representing various diseases taken from nature at the great hospital of St. Louis, of which the author is one of the physicians. Each volume costs 110 francs to the subscribers.

" Another work offered to the public by subscription, and the first volume of which has lately been published, is the *Histoire Medicale Generale et Particulière des Maladies Epidemiques, Contagieuses, et Epirexiques qui ont paru en Europe depuis les temps les plus reculés*, &c. The work is written by Dr. Ozanam of Lyon, and will consist of five volumes octavo. I cannot say I am quite satisfied with the execution of the first.

" Dr. Double has published a second volume to his *Semeiotique Generale*; a work of great merit, which is to consist of three volumes.

" Dr. Foderè has recently sent to Paris from Strasburgh his Treatise on Delirium, of which I shall speak to you more fully on a future occasion, as a work of great importance and worthy the attention of the profession.

" A singular work in three volumes has reached me from Italy, of which I may have occasion to say something i another letter. It is intitled " Elements of a New System on the Theory and Practice of Physic *(Appoggiato alle sole leggi della fisica animale).*" It is from the pen of Dr. Bucellati, who has also written a small work on the prevailing diseases which proved so fatal to many of the inhabitants of Lombardy during the last winter." A. B. GRANVILLE.

Paris, July 1817.

PATHOLOGY.

II.—The following *Description of a Polypous Tumour in the Stomach, stretching into the Duodenum*, by Dr. G. Breschet of Paris, is not devoid of interest*.

" Maria Catharine Lefèvre, aged 69 years, a wife, and the mother of several children, had been occasionally afflicted with different complaints, but altogether unconnected with that which is about to be related, and of which she died. For some months she had been suffering from diarrhœa, the returns of which becoming more frequent, she was obliged at length to go into the hospital. At this time she was attacked at intervals with vomiting of mucous matter, which, however, did not return. The abdomen was tender to the touch in several places, particularly at the epigastric region and towards the right iliac; she had frequent and often involuntary stools, and gradually lost flesh. The tongue became dry and brown, and the teeth covered with a blackish fur; the pulse was very small and frequent, the skin arid and hot, and the stomach very painful. This woman died after she had been a month at the Hotel Dieu, where she had been attended by a skilful and experienced physician, *Dr. Husson*.

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* Vide *Bulletins de la Faculté de Medecine de Paris*, 1817, p. 376. *Journal de Medecine, &c.* vol. xxxix.

" On opening the body, the mucous membrane of the small intestines were found covered with ulcers, presenting an irregular indented edge, with an unequal surface. The *stomach*, when examined exteriorly, appeared less than usual; and about the middle, lengthwise, it was contracted, as if slightly strangulated. When opened, on its presenting surface it displayed a very remarkable tumour, rising from its smaller curvature, or the vertebral side, near the orifice of the œsophagus; and measuring six inches in length, and half an inch in diameter. The tumour, which was nearly cylindrical throughout, and stretching from left to right, passed through the pylorus, and projected into the cavity of the duodenum about eight lines. At the part corresponding to the valve of the pylorus, it was slightly curved. It was covered with the mucous membrane of the stomach: its colour near the root was the same as that of the villous coat; but towards the apex, extending about three inches, it was of a violet or brownish hue. The whole of its surface was spread with vascular ramifications. Its texture was dense, resisting, and apparently, at first sight, resembling those venous tumours which the English surgeons term aneurisms by anastomoses*: but on a more attentive examination, there was evidently no analogy between them. The deep red tint displayed, probably depended on the stagnation of the blood at its apex, from being partially compressed by the duodenal orifice of the stomach. The texture which, although it was dense and evidently organised, yet could readily be torn, and resembled that of some of those polypous tumours which are occasionally found in the vagina and uterus.

" At some distance from this tumour there was a second, of a smaller bulk. The mucous membrane was throughout very pale; but displayed rugæ here and there in sufficient numbers. The membranes intermediate between the mucous and peritoneal coat were thicker than usual. The contraction of the stomach, which has been already noticed, seemed to be owing to this tumour increasing in bulk at the expense of the substance of that viscus.

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* Vide J. Bell's *Principles of Surgery*, vol. i. p. 456. and vol. iii. p. 255.

"The pyloric orifice was very open, and at the cardia the mucous membrane of the œsophagus was seen changed in colour, and terminating so as not to form a continuation with that of the stomach. But this peculiarity, which is very evident in the horse and some other quadrupeds, has already been remarked in man by some anatomists.

"Little information can be given as to the symptoms of the deceased: it is certain that, during her stay in the Hotel Dieu, she never complained of any acute pains in her stomach, or of any deranged functions in this organ, which could have caused a suspicion of the existence of any injury in this part. Of this I have been assured by M. Husson.

"I have described this extraordinary tumour under the name of polypus, although I am sensible that this expression is not strictly correct; for if the antients indicated by this word either the vegetations which have some resemblance to this zoophytes, or excrescences, soft in consistence like polypi, in both cases the name of polypus is not admissible. Under this name are commonly included excrescences, fungous and sometimes even sarcomatous tumours, which are most commonly situated in the mucous membranes. Nothing is, however, more variable than the structure of these excrescences; and it is, undoubtedly, a defect in the language to describe under the same name vesicular polypi of the pituitary membranes, and fungous or sarcomatous and cancerous polypi of the same membrane. An analytical distribution of the species in pathological anatomy ought to put an end to such confusion."

CHEMISTRY.

III.—We have already noticed the general results of the experiments of M.M. *Majendie* and *Pelletier* on *Ipecacuanha*, and have now to lay the details before our readers, as contained in the memoir intitled "*Recherches Chimiques et Physiologiques sur l'Ipecacuanha*[*]."

"The authors of this memoir, being thoroughly convinced that we are still far from possessing all the knowledge upon the nature of this valuable root which the present state of chemical science permits, have subjected it to new experiments, which have furnished many striking results of great importance to chemistry as well as to medicine.

"After having briefly traced the history of ipecacuanha, and having cursorily indicated the principal results obtained by the latest chemists who have examined it, Messrs. Pelletier and Majendie immediately point out the method which they followed in the analysis of the brown-coloured ipecacuanha furnished by the Psycotria *emetica.* They first examined the cortical part, which they treated with successive portions of cold sulphuric ether, and finally employed a slight degree of heat; so that all the parts soluble in this vehicle might be taken up: after the ether, they made use of highly rectified spirit, and renewed it until it ceased having the slightest effect, even when raised to the boiling point. The powder of ipecacuanha, thus treated by these re-agents, was dried, and afterwards subjected to the action of cold and boiling water successively. What remained after having resisted all these experiments was regarded as ligneous and inert matter. Each of the products obtained by the different operations, afterwards became the subject of a particular examination.

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[*] *Annales de Chimie et de Physique,* and *Journal de Pharmacie, &c.* 1817, p. 145.

"The etherial tinctures were of a fine yellow colour. On being distilled, the first portions that came over were inodorous; the last smelt very perceptibly of ipecacuanha. The residue of the evaporation furnished a *fatty matter,* of a brownish yellow colour when in mass; but when dissolved in alcohol or ether, it communicated to the solvents a golden yellow colour. This matter possesses scarcely any taste; but has a very powerful odour, resembling that of the essential oil of horse-radish, which becomes unsupportable when exposed to much heat. When diluted in any vehicle, the odour is analogous to that of ipecacuanha. It is, therefore, to this substance that we must ascribe the smell of the root. The fatty matter is heavier than alcohol, but nearly of the same weight as water. When heated, it immediately melts. The action of heat separates from it a very volatile oil, of a penetrating odour; but the greater part of the matter undergoes a change before being volatilized, and furnishes the same products as are obtained from the decomposition of vegetable substances containing much hydrogen, when exposed to the action of heat. The oil which is procured has not now the properties and smell of that of which we have spoken, but is entirely empyreumatic. If, on the other hand, we distil the fatty matter with water, the water is strongly impregnated with the smell of ipecacuanha. Iridescent circles, formed by an excess of volatile oil, appear on its surface.

"Hence we perceive that ipecacuanha contains two sorts of oil: the one, essential, and very volatile, which is the odorous principle; the other, fixed, and fatty, having little or no odour, and insoluble in water, but soluble in ether and in alcohol.

"The alcoholic tinctures deposited, upon cooling, some slight flakes, which, when separated by filtration, were found to be wax. These tinctures were of a brownish yellow colour, and, when evaporated in close vessels by the heat of a sand-bath, they left a residue of some consistence and of a reddish saffron colour, which was again taken up by cold water, and was nearly all dissolved; a little more wax still separating by this means. This new aqueous solution being also evaporated, the product was very deliquescent, slightly acid, of a bitterish taste, and a little acrid; it had not any smell. It was attempted, by means of carbonate of barytes, to separate the acid from it. It took it up from the solution; but the too small portion prevented the separation from it of the whole of the carbonate of barytes employed. The authors are of opinion that this acid is the gallic; because the acid liquor had the property of changing into a green colour a solution of the acetate of lead. The solution, after having been treated with carbonate of barytes, was precipitated by a proportionate quantity of acetate of lead, which almost completely discoloured it: the sub-acetate discoloured it entirely. The greyish precipitate which was thus obtained, after having been well washed, was dissolved in distilled water, and exposed to a current of sulphuretted hydrogen, in order to separate the lead. After this series of operations, the matter remaining in solution was found to be essentially emetic, and as possessing alone the principal property of the ipecacuanha. It has been examined with much care, and makes, in the memoir, the subject of a particular paragraph, which we shall extract entire.

" *Of the Emetic Principle.*—The experiments which we have related, have already made known some of the properties of the emetic principle; such as its solubility in water, its deliquescence, the action exercised upon it by alcohol, and its insolubility in ether; but finally, to make it better known, we will present in a methodical manner the actions exercised upon it by the chemical agents with which we put it in contact. The emetic principle, when dried, appears in the form of transparent scales, of a brownish red colour, nearly inodorous; the taste slighly bitter and a little acrid, but by no means nauseous. The emetic principle does not undergo any alteration in any degree of heat less than that of boiling water, and is not fused at a higher temperature; it swells, grows black, is decomposed, gives out water, carbonic acid, a small quantity of oil, and some acetic acid; leaving a very spongy and light charcoal; but no traces of ammonia could be discovered in the products, which indicate that azote does not enter into its composition.

" It is not altered by exposure to the atmosphere; if the air however be moist, it deliquesces; water dissolves it in all proportions without altering it; and it cannot be crystallized by any method.

" Sulphuric acid, when diluted, does not exercise any action upon it; but when concentrated, it carbonizes and destroys it. Nitric acid, as well warm as cold, destroys it, and takes a fine red colour; if the action of the nitric acid be continued, the colour changes to yellow; nitrous vapours are disengaged, and crystals of oxalic acid may be obtained; no bitter yellow coloured matter is formed.

"The muriatic and phosphoric acids dissolve the emetic principle without altering it; by saturating these last, we may extract the emetic principle.

"Acetic acid is one of the best solvents of the emetic principle. Gallic acid, on the contrary, precipitates it from its aqueous or alcoholic solution, and forms in it a very intimate combination. The abundant and flaky precipitate which is formed is of a dirty white colour, and sparingly soluble; but a certain quantity of it, however, remains in the liquor. The emetic principle loses in this combination the property from which it receives its name, viewing its action upon the animal economy.

"The aqueous or alcoholic tinctures of gall-nuts forms also with this principle a very abundant precipitate. The tartaric and oxalic acids have no action upon it: the alkaline solutions, when diluted, have no action upon it; but the concentrated alkalies completely change the nature of this substance.

"The alkalies dissolve the precipitate formed by the gall nuts with the emetic principle. Iodine, dissolved in alcohol and poured into an alcoholic tincture of the emetic principle, forms in it a reddish precipitate, which appeared to us to be a combination of iodine with the emetic principle. The small quantity, however, which we obtained of the precipitate would not allow us to examine minutely its components.

"Of the salts which we placed in contact with the emetic principle, none had so powerful an action upon it as the acetate of lead; it forms in its solution a very abundant precipitate; and this is especially the case with the sub-acetate. When we make use of the acetate of lead of commerce, which contains more acid, the precipitate is less abundant, and the fluid remains slightly coloured. Hence we perceive, that the acetic acid rather opposes the precipitate.

"The proto-nitrate of mercury has not at first any action upon the emetic principle; but after a little time a slight precipitate is obtained.

"The deuto-chlorate of mercury causes a rather more copious precipitate.

"The precipitate formed by the muriate of tin is also rather small. The salts of iron have no action upon the emetic principle when this is deprived of all the gallic acid.

"The antimoniated tartrate of potass exerts no action upon the emetic principle: this is an interesting fact, as the two substances are often administered together in medical practice.

" The decoction of cinchona produces a slight precipitate in a solution of the emetic principle; but the precipitate is not to be compared, in regard to quantity, with that produced by an infusion of gall nuts.

" The vegetable salts have no action upon the emetic principle; neither have sugar, gum, gelatine, and other vegetable and animal matters. Ethers and oils do not dissolve it. We shall afterwards treat of its action upon the animal economy.

" In reviewing the properties of the emetic principle of ipecacuanha, we must allow that it is a substance *sui generis.* The numerous experiments which we made upon it, in order to separate it into several principles without being able to do so, its emetic property, and the action exercised upon it by the gallic acid and by gall nuts, make us regard it as a peculiar substance, a direct vegetable principle; and this is the more probable, as we have found it in emetic plants belonging to very different families; for example, in the callicocca *ipecacuanha,* the viola *emetica,* &c. We have named it *emetine* (from *εμεω,* vomo), which indicates its most remarkable property, and the plant from which it was first obtained, the Psycotria *emetica.*

" There remain to be noticed the products furnished by means of the water employed as a solvent for the portion of ipecacuanha, which contained nothing more that was soluble either in the alcohol or the ether. This water, after being macerated at the ordinary temperature, was become mucilaginous; it left upon evaporation a greyish substance, which, when washed in alcohol, separated from a colouring matter, which was recognised as being of the same nature with the emetic principle just mentioned. The white residue had all the characters of gum; a little oxalic and some mucous acid was obtained by treating it with nitric acid.

" Cold water not producing any more effect, we made use of boiling water, which, in its turn, dissolved a considerable quantity of a substance recognised by the authors to be starch. A little iodine added to the liquor immediately determined a fine blue colour.

" M. M. Pelletier and Majendie finish the chemical examination of the Psycotria *emetica,* and reckon as ligneous matter the residue, insoluble in the different menstruo employed.

" They mention, as a very singular fact, the intimate combination of the ligneous matter and the fecula, of which *very perceptible* traces were found at the eighteenth boiling.

" The mean of many analyses gave the following as the proportion of the components of the cortical part of this species of ipecacuanha:

Fatty and oily matter	2
Emetic matter (émétine)	16
Wax	6
Gum	10
Starch	42
Ligneous matter	20
Loss	4
	100

" The analysis of the woody pith or *meditullium* of the same root afforded the following results:

Emetic matter (émétine)	1·15
Extractive, not emetic	2·45
Gum	5·00
Starch	20·00
Woody matter	66·60
Some traces of fatty matter	
Loss	4·80
	100·00

" The inert extractive had nearly the characteristics of the extracts generally obtained from woody substances, and was separated with difficulty from the emetine, the specific property of which it weakened; it, however, differed from it in as much as it was not precipitated either by tincture of galls or the gallic acid, whilst the emetic matter formed copious precipitates with these re-agents. The small quantity of the emetic principle contained in the woody meditullium of ipecacuanha justifies the practice of separating that part in the preparation of the powder of ipecacuanha.

" The *Grey Ipecacuanha*, the root of the Callicoca *ipecacuanha*, deprived of its meditullium, and treated in the same manner as the former, afforded the following results:

Fatty matter	2
Emetine	14
Gum	16
Starch	18
Woody matter	48
Wax, a trace merely	
Loss	2
	100

" Hence it is apparent, notwithstanding the analogy in the results obtained from this analysis and those of the cortical part of the root of the psychotria, that the latter, as it contains more emetine, must necessarily be the more active.

" In submitting the *White Ipecacuanha*, the root of the viola *emetica*, to the same operations, Pelletier and Majendie found the emetine so intimately combined with the other components, that it it was necessary, instead of using ether and alcohol, to boil the powdered root in a great quantity of water, and form an aqueous extract. This extract, treated with alcohol at 40°, lost its colour and yielded a brown matter, that was recognized as emetine; leaving a white matter soluble in water, which was gum, and an insoluble glutinous matter, which yielded ammonia on distillation. Neither fatty matter nor starch was found in the violet root.

" One hundred parts yielded,

Emetine	5
Gum	35
Vigeto animal matter	1
Woody matter	57
Loss	3
	100

" In order to attain the object which Messrs. Pelletier and Majendie had in view, it was still necessary to make physiological trials with each of the products of their analysis; but as no particular effect could be expected from the gum, the starch, the wax, or the woody matter, it was necessary only to examine the *fatty matter* and the *emetine*.

" The *fatty matter*," say they, " effects the smell and taste in the same manner, but with more energy than the ipecacuanha in substance. It might have been thence presumed, that it would have a similar action upon the stomach; but experience did not confirm this conjecture. Large doses of it were given to animals without any sensible effect being produced: many grains of it were also several times swallowed by ourselves; but the only effect was a disagreeable and nauseating, but momentary, impression on the organs of smell and taste; and even M. Caventou, who assisted us in our researches, having taken six grains of it at once, experienced no other effect.

" Very different results were obtained from the *emetine*: half a grain being given to a cat, excited violent and long continued vomiting, that terminated in a profound sleep which continued for some hours, but from which the animal awoke in perfect health.

" These experiments were repeated on many other cats and dogs with nearly equal doses of *emetine*, and afforded similar results; that is to say, always vomiting terminating in sleep, and awaking in health after a longer or shorter interval.

" The experimentalists repeated these experiments upon themselves, and obtained similar results.

" Since then, the *emetine* has been administered as an emetic to many invalids; on all of whom it has produced the effects usually obtained from ipecacuanha, without the disagreeable odour and taste of ipecacuanha, the emetine being inodorous and its taste merely a little bitter. But Messrs. Pelletier and Majendie have not limited their researches to these points, but have also endeavoured to ascertain the effects of large doses on the animal economy. Twelve grains being given to a small dog about two years old, vomiting was excited in less than half an hour, and continued for a considerable time until the animal fell asleep. But instead of awaking in a healthy state, as in the former experiments with small doses, it died in the night after the experiment, about fifteen hours after it had swallowed the *emetine*. On opening the body next day with all the necessary precautions, it appeared evident that the animal had died from violent inflammation of the substance of the lungs, and of the mucous membrane of the intestinal canal, from the cardia to the anus*.

" On repeating these experiments with other animals, even when six grains only of the *emetine* were given, similar results were obtained: and this was the case when the emetine, instead of being introduced into the stomach, was dissolved in a small quantity of water and injected, either into the jugular vein, or the pleura, or the anus, or into the muscular tissue; in all, the effects were similar:—at first, obstinate vomiting, then sleep, and death in twenty-four or thirty hours after the exhibition of the dose. The opening of the body also, in all the cases, displayed appearances of inflammation of the lungs and mucous membrane of the intestinal canal.

" These experiments prove that *emetine* cannot be safely taken in a large dose, and also the error of those practitioners who think that ipecacuanha may be exhibited indifferently in greater or smaller quantity; because, if the dose be too large, the vomiting induced corrects the evil. They also prove, from the action of emetine upon the lungs and intestinal canal, the propriety of administering small and frequently repeated doses of ipecacuanha in the latter stages of catarrhal fever, of chronic pulmonary catarrhs, and long continued diarrhœa. Many examples are cited in the memoir, in which emetine in proper doses was exhibited to individuals affected with these complaints, and in which its beneficial effect was more certain and constant than that of ipecacuanha.

" Similar experiments made with emetine obtained from the different kinds of ipecacuanha and the viola *emetica*, by furnishing similar results, prove the identity of this substance, and that it ought to be regarded as an immediate vegetable principle. As a medicine, it possesses all the advantages of ipecacuanha, without its inconveniences; having no odour, very little taste, and being soluble in water. Its effects also are more immediate; and, when overdosed, its action can be instantaneously paralysed by the administration of a light decoction of gall nuts; a fact which M. Majendie has ascertained upon himself.

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* These effects resemble those produced in cases of poisoning by tartar emetic.

"From the whole of the experiments, it may be concluded—1. That the particular substance we call *emetine* exists in all the species of ipecacuanha used in medicine, and on it depends their medicinal properties: 2. That this matter is emetic and purgative, and exerts a specific action on the lungs and the mucous membrane of the intestinal canal, and has also marked narcotic properties: 3. That it may be employed instead of ipecacuanha in every case in which this medicine is useful, the dose being more easily regulated, and the effects more certain."

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I.—SOCIETIES.

Royal Society.—June 26. The following papers were read by Sir Everard Home, Bart. 1. Some account of the nests of the Java swallow, and of the glands that secrete the mucus of which they are composed. 2. Observations on the gastric glands of the human stomach, and the contraction which takes place in that viscus. He also communicated a paper, by Dr. J. R. Johnson, containing observations on the Hirudo *complanata* and *stagnalis*, now formed into a distinct genus, under the name of Glossiphonia.—The President presented a paper by W. Sewell, Esq. giving an account of the cure of a diseased foot, arising from an injury of the coffin bone.—Mr. Pond, Astronomer Royal, read a paper on the parallax of the fixed stars; after which the Society adjourned during the long vacation.

At a Meeting of the Associated Apothecaries and Surgeon-Apothecaries of England and Wales, held by Public Advertisement, at the Crown and Anchor Tavern, August the 20th, 1817.

The Eighth Report of the General Committee was read, as follows:

Circumstances having rendered it expedient to convene a General Meeting of the Members of the Association, its Committee begs leave to detail the events which have occurred since the publication of their last Report, dated 24th of April 1816.

By a reference to that document, it will be seen what steps were taken by the Committee to procure such alterations as appeared adviseable in the Bill intended to be brought before Parliament by the College of Surgeons during that session; and also an amendment of the Apothecaries' Act. The Royal College of Surgeons did not, however, then introduce any Bill. But the Court of Assistants of the Society of Apothecaries, notwithstanding the declaration of its Bill-Committee, "that such practical inconvenience had not arisen from the alledged defects of the Act, as to induce it to recommend to the Court of Assistants any immediate application to Parliament," did immediately afterwards intimate, that as the Secretary at War, Lord Palmerston, was about to bring in a Bill to amend the Act, as far as it affected Army and Navy Medical Officers, the Court meant to embrace an obliging offer of his Lordship of making such other alterations in the Act as would correct its defects, &c.: and Dr. Burrows and Mr. Field met the Bill-Committee at the Hall, to discuss the points which were stated as requiring amendment. This intention of the Society was made known to your Committee; and some Resolutions relative to the subject were passed on the 15th of May. But the session closed; and the amended Bill was not brought forward, either by Lord Palmerston or by the Society.

In January last the Chairman received a copy of a new Bill which the College of Surgeons had arranged. This was submitted to the Committee on the 21st of that month. The Committee approved this Bill, as far as it related to the practice of Surgery; but reiterated its objection to the amount of the fees for diplomas, as being too large; considering that by the Act every person, henceforward practising surgery, would be compelled to apply for a diploma; whereas, under present circumstances, his coming before the College is entirely optional. A request was consequently transmitted to the College, that it would re-consider the subject of fees; accompanied with a copy of the following Resolution: viz. "that this Committee anxiously hope that the Royal College of Surgeons will not neglect the opportunities allowed by the intended Bill of examining into the qualifications of candidates in the knowledge of Midwifery."

This Bill was expected to be introduced early in the last session of Parliament; but that also has passed without any application being made.

Five years have elapsed since your Committee was appointed; during which, it has been reduced by the death of many valuable Members, by secessions and other causes, from forty-five to about twelve or fourteen effective persons;—a number, by far too few to perform the ordinary business of the Association, or to constitute a due representation of the great body of General Practitioners.

The intended resignation of the Chairman, Dr. Burrows, is a circumstance which your Committee has most sincerely to lament; for in him, from the length of time he has so honourably and zealously laboured in that very ostensible and important situation, all the most material details of the business have centered. His retirement imposes the obligation of appointing a successor. It would be an act of injustice to Dr. Burrows, if the Committee withheld from the Association, the fact, that so long ago as May 1816, he expressed, and for very sufficient reasons, his determination to retire from the Chair; but under the impression that the duties of the Committee would most likely be terminated with the last Session of Parliament, he acceded to the general wish of the Committee, and was prevailed upon to extend his valuable services till that period. And although no application has been preferred to Parliament, either by the College of Surgeons or by the Society of Apothecaries, his anxiety and exertions have been unremitting to promote, as far as was in his power, the introduction of a Bill for the Regulation of Surgery, and the administration of the Apothecaries' Act agreeably both to its letter and spirit.

By the subjoined statement of the funds of the Association, the Committee confidently trust it will appear, that a just regard has been paid to so important a resource; and although it may be deemed right to appropriate a portion of it for especial purposes at this Meeting, yet it should ever be respected and preserved as a means applicable (when real occasion exists) to the support of the interests of the General Practitioners in Medicine. Nor can the Committee forbear expressing a hope, that the subscription book will still continue open, in order that the fund may be adequate to all possible exigencies.

The remaining Members of your Committee have thought it a duty incumbent upon them to convene this General Meeting of the Association; that they may render to it an account of their proceedings: and with the utmost respect, they here surrender the trust which has been confided to them, and which they have endeavoured to execute faithfully and usefully.

State of the Fund, May 1, 1817.

Dr.	£.	s.	d.	Cr.	£.	s.	d.
Law expences	144	9	9	Balance of cash in hand at last Audit (Sept. 3, 1813.)	209	14	4
Printing	77	18	7	Subscriptions since received	146	5	1
Advertising	56	17	3	By Sale of the intended Bill	7	7	7
Sundry Disbursements	43	14	4	By return on Advertisements	3	13	6
Meetings, Public & Committee, during 4 years.	24	9	10	By 4 years Interest on Exchequer Bill of £1000	201	8	7
	347	9	9	Balance £220 19 4	568	9	1
JOHN HUNTER, R. S. WELLS, Auditors.				Exchequer Bill £1000			

Dr. BURROWS having resigned the CHAIR, JAMES PARKINSON, ESQ. was unanimously elected to fill that situation: after which the following Resolutions were passed.

1.—Resolved, *unanimously*, That the most sincere thanks of this Association be given to Dr. BURROWS, for the indefatigable zeal, ability, and disinterestedness, with which he has filled the Chair since the formation of the Association in 1812: and for the manly perseverance with which he met all the difficulties that were opposed to the passing of "An Act for the better regulating the Practice of Apothecaries," &c.; by which the honor and respectability of the profession have been upheld, and the public interest most importantly served.

2.—Resolved, *unanimously*, That a Purse of Five Hundred Guineas be presented to Dr. Burrows, the late Chairman, as an acknowledgment of the services he has rendered to this Association, to the Profession, and to the Public.

3.—Resolved, *unanimously*, That the above Resolutions be advertised in the public papers.

4.—Resolved, *unanimously*, That the Gentlemen who may this day be appointed Treasurers to this Association be authorized forthwith to carry into effect the two preceding Resolutions.

5.—Resolved, *unanimously*, That the sincere thanks of this Association be given to the Members of the General Committee; who, for a period of five years, have, with unwearied zeal, ability, and attention, devoted their valuable time to the interests of the Association, and the general improvement of the Profession; and who have consequently rendered an essential service to the public.

6.—Resolved, *unanimously*, That the thanks of this Association be given to the Treasurers for their services.

7.—Resolved, *unanimously*, That the Report of the General Committee, now read, be received and adopted.

8.—Resolved, *unanimously*, That this Association do continue permanent.

9.—Resolved, *unanimously*, That this Association determines to use its utmost exertions to promote the improvement of those branches of the Medical Profession exercised by General Practitioners, and to protect their interests.

10.—Resolved, *unanimously*, That the interests of the Association be entrusted to a Committee, with full powers to act according to its discretion.

11.—Resolved, *unanimously*, That the said Committee shall consist of twenty-four Members, resident in London and its vicinity; and that one moiety of them shall be Members of the Society of Apothecaries, and the other moiety of Non-Members of that Society.

12.—Resolved, *unanimously*, That Messrs. Hunter, Upton, Wells, Bowman, De Bruyn, Brande, Cates, Drew, Kerrison, Shillito, Seaton, and Malim, Members of the Society of Apothecaries—and that Messrs. Parkinson, A. T. Thomson, Humby, Cook, Haden, James, Reginald Williams, Hayes, Ogle, Nevill Wells, and Edward Leese, Non-Members of the Society—do constitute the present Committee.

13.—Resolved, *unanimously*, That the present Treasurers to this Association be desired, and are hereby authorised, to transfer to the Treasurers to be appointed at this Meeting, the balance of the fund of this Association which may be now in their's, or the Banker's, Messrs. Gosling and Sharpe's hands.

14.—Resolved, *unanimously*, That the monies belonging to the Association be invested in public securities, bearing interest; and be placed in the names of the three Treasurers now to be nominated; except such balance as is necessary to defray current expenses.

15.—Resolved, *unanimously*, That Messrs. Parkinson, Hunter, and Upton, be Treasurers; and that the signature of two of the Treasurers be necessary to the disposal of any part of the fund.

16.—Resolved, *unanimously*, That, in order to establish a competent fund to preserve the interests of the Association, further subscriptions be received; and that any new Subscriber of One Guinea be enrolled as a Member of the Association.

17.—Resolved, *unanimously*, That subscriptions be received by any of the Treasurers, and by the Bankers to the Association, Messrs. Gosling and Sharpe, No. 19, Fleet Street.

18.—Resolved, *unanimously*, That the Committee be authorised by this General Meeting to receive from any Member of this Association any well-authenticated case of illegal practising; for the purpose of submitting the same to the Court of Assistants of the Society of Apothecaries for their prosecution.

19.—Resolved, *unanimously*, That there shall be a General Meeting of the Association held annually, on the third Wednesday in July, at two o'clock; when any vacancy in the Committee, or the office of Treasurer, shall be filled up, the accounts of the current year be audited, and all other affairs relating to the Association shall be reported.

20.—Resolved, *unanimously*, That a fortnight's notice shall be given, by advertisement in the London Medical Journals, and in two morning and two evening newspapers, of the time and place of the annual meeting.

The Secretary being under the necessity of resigning—

21.—Resolved, *unanimously*, That the thanks of this Meeting, with a Purse of ONE HUNDRED GUINEAS, be presented to Mr. WARD, the late SECRETARY, as a mark of estimation for his services.

22.—Resolved, *unanimously*, That the Treasurers be requested forthwith to fulfil the object of this resolution.

23.—Resolved, *unanimously*, That Mr. JOHN POWELL of Newman Street, be appointed Secretary.

24.—Resolved, *unanimously*, That the thanks of this Meeting be given to R. M. KERRISON, ESQ. for the zeal displayed by him in his publications; as well as for the general interest he has taken to forward the objects of the Association.

25.—Resolved, That a communication be made from this Association to the Court of Assistants of the Society of Apothecaries, begging them to ascertain and publish a list of those persons who were in practice up to the moment of the operation of the Act.

26.—Resolved, *unanimously*, That the thanks of this Association be given to JAMES PARKINSON, ESQ. for having accepted the CHAIR; and for the able manner in which he has conducted the business of the Meeting.

27.—Resolved, *unanimously*, That the thanks of this Meeting to the CHAIRMAN be advertised in the *public papers*.

28.—Resolved, *unanimously*, That the REPORT of the COMMITTEE, the state of the FUNDS, and the above RESOLUTIONS, be sent to the *Medical Journals* for insertion. JAMES PARKINSON, Chairman.

II.—MEDICAL.

Vaccination. — Every information relating to this subject is important. A respectable Correspondent calls our attention to the case of a child, named Price, 14, James-st. Manchester-sq. who has been dangerously ill of small-pox *after small-pox inoculation;* but which was otherwise reported. In three rumours of failures in vaccination, it was ascertained by competent judges that two were Varicella and one Measles.

NOTICES OF LECTURES.

Medical School, St. Thomas's and Guy's Hospitals.—The usual Courses of Lectures will commence in the beginning of October: viz. — *At St. Thomas's,* Anatomy and Operations of Surgery, by Mr. Astley Cooper and Mr. Henry Cline; Principles and Practice of Surgery, by Mr. Astley Cooper. — *At Guy's,* Practice of Medicine, by Dr. Curry and Dr. Cholmeley; Chemistry, by Dr. Marcet and Mr. Allen; Experimental Philosophy, by Mr. Allen; Theory of Medicine, and Materia Medica, by Dr. Curry and Dr. Cholmeley; Midwifery, and Diseases of Women and Children, by Dr. Haighton; Physiology, or Laws of the Animal Œconomy, by Dr. Haighton. N.B. These several Lectures are so arranged as not to interfere with each other, or with the practice of the hospitals.

Medical School, St. Bartholomew's Hospital. — The following Courses of Lectures will be delivered during the ensuing Winter. To commence on the 1st of October. On the Theory and Practice of Medicine, by Dr. Hue; on Anatomy and Physiology, by Mr. Abernethy; on the Theory and Practice of Surgery, by Mr. Abernethy; on Chemistry and Materia Medica, by Dr. Hue; on Midwifery, by Dr. Gooch; Practical Anatomy with Demonstrations, by Mr. Stanley. Further particulars may be obtained by application to Mr. Wheeler, Apothecary at the Hospital.

St. George's Medical, Chemical, and Chirurgical School. — The Courses will commence the first week of October; namely — On the Laws of the Animal Œconomy and the Practice of Physic, by George Pearson, M.D.; on Therapeutics, with Materia Medica and Medical Jurisprudence, by W. T. Brande, F.R.S. and George Pearson; on Chemistry, by Mr. Brande; on Surgery, by B. C. Brodie, F.R.S. Assistant Surgeon to St. George's Hospital; and Sir Everard Home will give, as usual, Surgical Lectures, gratuitously, to the Pupils of the Hospital.

London Hospital. — Lectures on the following subjects will commence in October: Anatomy and Physiology, by Mr. Headington; Surgery, by Mr. Headington; Midwifery, by Dr. Ramsbottom; Chemistry, by Mr. R. Phillips; Materia Medica and Pharmacy, by Mr. R. Phillips.

Middlesex Hospital.—Dr. P. M. Latham and Dr. Southey will begin their Lectures upon the Practice of Physic and the Materia, at the Middlesex Hospital, in the first week of October next.—The Lectures on Midwifery and the Diseases of Women and Children, by Dr. Merriman, Physician-Accoucheur to the Middlesex Hospital, and Dr. Ley, Physician-Accoucheur to the Westminster Lying-in Hospital, will be resumed in the same month.

Great Windmill Street.—Mr. Wilson and Mr. Bell will commence their Lectures on Anatomy and Surgery on the 1st of October, at 2 o'Clock. Mr. Bell will deliver a separate Course of Lectures on Surgery in the Evening. The Anatomical Demonstrations will be given by Mr. Shaw.

Dr. George Gilbert Currey, Fellow of the Royal College of Physicians, and Physician to St. Thomas's Hospital, will commence his

Winter Course of Lectures on the Practice and Theory of Medicine, and Materia Medica, on Wednesday, October 1st.

Theatre of Anatomy, Blenheim Street.—Mr. Brookes and Dr. Ager will commence their Autumnal Course of Lectures on Wednesday, October 1, at two o'clock.

For Continuation of Notices of Lectures, see page 270.

A METEOROLOGICAL TABLE,

From the 21st of July to the 20th of August 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.		Barometer. Min.		Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29	33	29	30	66	52	12	SW..SSE..	1 3 4 Cloudy... 2 Rain..
22	29	51	29	43	68	49	09	SW..	1 Sun.. 2 R. 3 4 Cy..
23	29	68	29	66	73	49		NW.NE.	1 Sun... 3 Cloudy...
24	29	64	29	57	71	55		NW.SW..	1 3 Sun.. 2 4 Cloudy..
25	29	60	29	44	68	52	06	SE.SW...	1 Rain. 2 Sun...
26	29	24	29	20	71	50	07	SW...	1 Cy.. 2 Sun.. & Sh.
27	29	29	29	26	67	49	05	SW..	1 Sun.. and Showers.
28	29	53	29	46	64	49		SW...	1 Sun.. and Showers.
29	29	45	29	42	69	45	35	SW..SE.	1 Sun.. & Sh. 3 Rain...
30	29	37	29	32	68	45	19	SW..	1 Sun.. 3 Showers..
31	29	37	29	32	66	48		WSW..	1 Sun..
1	29	54	29	51	66	44	13	WSW..	1 3 S.. 2 Sh.. 4 Moon...
2	29	54	29	27	68	49	18	SW..SE.	1 3 S.. 2 Sh.. 4 Rain..
3	29	27	29	22	66	52		SE.SW...	1 Rain. 2 Sun..
4	29	60	29	47	67	47		SW..N.	1 Cy... 2 Sun.. 3 Sh.
5	29	68	29	68	69	42		NW..N..	1 S.... 2 Cy.. 3 S.. 4 Stl...
6	29	62	29	56	70	48		SW..	1 Sun...
7	29	42	29	22	70	50		NW.	1 Sun.. 3 Cy.. 4 Rain.
8	29	18	29	13	60	49	62	Vble.	1 Rain.... 3 Sun..
9	29	37	29	34	64	49	01	WSW..	1 Sun.. and Showers.
10	29	51	29	47	62	38		W..	1 Sun..
11	29	20	29	02	63	50	31	SE..	1 Cy.. 2 R... 4 Light...
12	28	99	28	84	65	49	19	SW..	1 Sun... 3 Showers..
13	29	16	29	14	64	52	10	SE..SW...	1 4 Rain.. 2 3 Sun..
14	29	10	29	08	68	52	21	SSW...	1 Showers.. and Sun..
15	29	35	29	35	63	50		SW...	1 Showers. and Sun..
16	29	24	29	09	66	49	24	SW.	1 Cy.. 2 Sun.. 4 Rain..
17	29	45	29	38	65	45		SW...	1 Cloudy.. 2 Sun..
18	29	33	29	29	65	52	01	SW.SSE..	1 Sun... 2 Cy.. 4 Rain.
19	29	31	29	22	66	52	02	SW..	1 Sun... 4 Rain. 3 Cy..
20	29	49	29	39	69	49	18	SW..NE..	1 Sun... 3 Showers..

The quantity of rain during the month of July was 3 inches and 19-100ths.

◆

The diseases which have been under treatment this last period, were Anasarca, Cholera Morbus, Cynanche Parotidea, Cynanche Tonsillaris, Diarrhœa, Erysipelas, Febris Typhodes, Gastrodynia, Hæmorrhois, Icterus, Leucorrhœa, Menorrhagia, Obstipatio, Ophthalmia, Rubeola, and Scorbutus.

It may be proper to remark that though there are generally many cases remaining under treatment from the preceding report, yet they are always new ones that are noticed in the present.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of JULY to the 20th of AUGUST, 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Guage.	De Luc's Hygrom. *Dry.*		*Damp.*		Winds.		Atmo. Variation		
	20	65	67	60	29^{9}	29^{9}	.10			3	3	W	SW	Fine	Rain	Fine
	21	64	68	60	29^{6}	22^{8}	.07			2	2	SW	SW	Fine	——	——
	22	63	69	59	29^{8}	29^{8}	.04			3	3	SW	SW	Rain	Fine	——
○	23	60	69	57	29^{7}	29^{7}	.05			3	5	W	NW	Fine	Rain	Fine
	24	59	67	58	29^{8}	29^{8}	.12			3	4	NW	W	Fine	Rain	Fine
	25	60	68	57	29^{9}	29^{9}	.06			3	3	SW	W	Rain	Clo.	Fine
	26	61	69	57	29^{9}	29^{6}	.10			5	3	SW	SW	Rain	——	Clo.
	27	60	67	54	29^{6}	29^{7}	.07			2	2	S	SW	Rain	Fine	——
	28	60	65	55	29^{8}	29^{9}	.14			2	3	W	SW	Fine	Rain	——
	29	62	66	57	30	29^{8}	.16			3	3	SWva	S.	Fine	Clo.	Rain
	30	61	66	53	29^{7}	29^{7}	.19			3	3	SW	SW	Fine	Rain	——
◐	31	57	67	52	29^{7}	29^{7}	.10			2	2	SW	SW	Fine	Rain	Fine
	1	57	65	54	29^{8}	29^{9}	.05			2	2	WSW	SW	Fine	Stor.	Fine
	2	58	64	52	29^{9}	29^{7}	.07			2	2	WSW	W	Fine	——	Clo.
	3	56	66	54	29^{7}	29^{8}				2	2	SW	SW	Fine	——	Clo.
	4	56	65	55	29^{9}	29^{9}				1	1	SW	W	Fine	——	Clo.
	5	59	65	54	29^{9}	29^{9}	.09	0	0	0	0	S	E	Fine	——	——
	6	59	70	57	30	30		0	0	0	0	SW	SW	Fine	——	——
	7	63	69	59	29^{8}	29^{9}		0	0	0	0	SE	SE	Fog	Fine	Rain
●	8	63	69	59	29^{9}	29^{7}	.07			1	1	SW	S	Rain	——	Clo.
	9	63	67	58	29^{7}	29^{6}	.04			1	1	SW	S	Fine	Rain	——
	10	64	67	57	29^{5}	29^{4}	.13			2	2	S	SSE	Fine	Rain	——
	11	67	67	57	29^{4}	29^{4}	.10			2	3	SW	SW	Fine	Rain	——
	12	69	69	61	29^{3}	29^{4}	.09			3	3	SW	WSW	Fine	Clo.	Rain
	13	66	69	59	29^{4}	29^{4}	.07			3	3	SW	SSW	Fog	Clo.	Rain
	14	66	66	59	29^{5}	29^{6}	.06			3	4	SW	SSW	Fog	Clo.	Rain
	15	66	66	60	29^{6}	29^{6}	.09			3	4	S	S	Rain	——	——
	16	65	65	60	29^{8}	29^{7}	.13			4	4	S	S	Rain	——	——
☽	17	64	67	59	29^{7}	29^{5}	.11			5	5	SW	SE	Fine	——	——
	18	66	65	58	29^{7}	29^{7}				7	7	S	SW	Fine	——	Rain
	19	63	65	58	29^{7}	29^{6}	.06			5	5	S	SW	Rain	Clo.	——

The quantity of Rain fallen in the month of July, is 1 inch and 85-100th.

BILL OF MORTALITY *from July* 15, *to August* 19, 1817.

		July 22	*July* 29.	*Aug.* 5.	*Aug.* 12.	*Aug.* 19.	
CHRISTENED.	Males	216	206	250	309	196	
	Females	195	170	226	326	177	
		411	376	476	635	373	Total, *(five weeks)* 2271.
BURIED	Males	145	131	176	177	167	
	Females	171	152	187	194	143	
		316	283	363	371	310	Total, *(five weeks)* 1643.
OF WHOM HAVE DIED	Under 2 Years	90	75	100	116	87	
	Betw. 2 and 5	41	26	40	41	30	
	5 and 10	17	15	15	14	17	
	10 and 20	8	9	13	11	11	
	20 and 30	29	22	29	32	29	
	30 and 40	31	29	42	33	22	
	40 and 50	29	31	38	34	30	
	50 and 60	24	25	26	33	27	
	60 and 70	21	23	21	25	28	
	70 and 80	16	19	20	19	16	
	80 and 90	8	9	16	12	8	
	90 and 100	2	2	4	1	3	
	100	0	0	0	0	2	
SMALL POX		28	19	27	29	17	

Total of Small Pox...*(five weeks)*...120.

A REGISTER OF DISEASES

Between JULY 20th, and AUGUST 19th, 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	10		Eneuresis	2	
Abscessio	15		Enteritis	5	1
Acne	5		Entrodynia	19	
Amaurosis	5		Epilepsia.	6	
Amenorrhœa	17		Epistaxis	6	
Amentia	3		Erysipelas	13	
Anasarca	21	2	Erythema *læve*	5	
Angina Pectoris	1		Erythismus *Merc*	2	
Anorexia	3		Febris *intermittent*	5	
Aphtha *lactentium*	12		—— *catarrhalis*	12	
——— *anginosa*	1		—— *Synocha*	22	
Apoplexia	1	1	—— *Typhus mitior*	16	1
Ascites	8	1	—— *Typhus gravior*	5	3
Asthenia	36		—— *Synochus*	25	
Asthma	19		—— *remit. Infant.*	19	2
Atrophia	2		Fistula	2	
Bronchitis *acuta*	2		Furunculus	3	
——— *chronica*	1		Gastrodynia	33	
Bronchocele	1		Gonorrhœa	17	
Calculus	2		Hæmatemesis	2	
Caligo	1		Hæmoptöe	11	
Cancer	3		Hæmorrhois	19	
Carbunculus	3		Hemiplegia	5	1
Cardialgia	12		Hepatalgia	7	
Catarrhus	52		Hepatitis	16	3
Cephalalgia	21		Hernia	7	1
Cephalæa	8		Herpes *Zoster*	4	
Chlorosis	6		——— *præputialis*	1	
Chorea	3		Hydrocele	1	
Cholera	41	2	Hydrocephalus	7	5
Colica	22		Hydrothorax.	3	3
—— *Pictonum*	7		Hypochondriasis	5	
Convulsio	5	1	Hysteralgia	1	
Coryza	1		Hysteria	19	
Cynanche *Tonsillaris*	24		Icterus	11	
——— *maligna*	3		Impetigo *figurata*	4	
——— *Trachealis*	2	1	——— *sparsa*	1	
——— *Parotidea*	2		——— *erysipelatodes*	1	
——— *Laryngea*	1		——— *scabida*	1	
Delirium Tremens	1		Ischias	2	
Diabetes.	2		Ischuria	1	
Diarrhœa	73		Lepra	2	
Dysenteria	15	1	Leucorrhœa	14	
Dyspepsia	59		Lichen *simplex*	4	
Dyspnœa	14		Lumbago	4	
Dysphagia	1		Mania	9	
Dystocia	1		Melancholia	3	
Dysuria	2		Menorrhagia	19	
Ecthyma	5		Miliaria	1	
Eczema	3		Morbi *Infantiles**	78	2

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Morbi *Biliosi*†	62		Psoriasis *guttata*	8	
Nephralgia	1		——— *inveterata*	1	
Nephritis	1		Pyrosis	4	
Neuralgia	1		Rheumatismus *acutus*	30	
Obstipatio	21		——— *chronicus*	36	
Odontalgia	18		Roseola	2	
Opththalmia	37		Rubeola	14	1
Otalgia	4		Scabies	77	
Palpitatio	10		Scarlatina *simplex*	8	
Paralysis	4		——— *anginosa*	3	
Paraplegia	1		——— *maligna*	1	1
Paronychia	7		Scorbutus	2	
Pericarditis	2		Scrofula	12	
Peripneumonia	3		Spasmi	3	
Peritonitis	4	1	Strictura	3	
Pertussis	14		Strophulus *intertinctus*	2	
Phlegmasia *dolens*	1		Sycosis *menti*	1	
Phlogosis	12		Syphilis	24	
Phrenitis	5	2	Tabes Mesenterica	2	
Phthisis *Pulmonalis*	24	8	Tremor	1	
Plethora	2		Trismus	1	
Pleuritis	22	1	Vaccinia	57	
Pleurodyne	7		Varicella	17	
Pneumonia	7		Variola	25	6
Podagra	15		Vermes	33	
Pompholyx *benignus*	2		Vertigo	31	
Porrigo *larvalis*	9		Urticaria *febrilis*	5	
——— *scutulata*	2		——— *tuberosa*	1	
——— *favosa*	3				
Prolapsus	7		Total of Cases	1764	
Prurigo *mitis*	4				
——— *senilis*	7		Total of Deaths		51

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

Judging by the number of cases in the present Register, it may be concluded, that the town is generally healthy; although great allowance must always be made at this season for the number who frequent the country.

It does not appear that there is any disease at present epidemic in London; but in the adjacent villages, *Scarlatina simplex* and *anginosa* have been very prevalent. We long ago noticed the fact of the infrequency of this febrile affection in town, comparatively with the country; and it will be seen by a reference to the *Registers* of the *Repository*, how low it is in the scale of the diseases prevailing in this city, to what it was formerly. Hence it may be presumed, that there is something in the atmosphere or œconomy of a populous town less favourable to its production; and hence too, perhaps, we may call Scarlatina the *Malaria* of the country.

In a case of *Epilepsy* lately, peripneumonia supervened, which terminated in hydrothorax, and death.

Two of the fatal cases of *Typhus gravior* were accompanied by coma and petechiæ.

Two children who died, last month, of *Measles*, previously laboured under tabes.

The fatal case of *Enteritis* succeeded the operation for *Hernia*, NOTICES OF LECTURES CONTINUED.

Dr. Davis, Physician to the Queen's Lying-in Hospital and to the Lying-in Charity, will commence his First Winter Course of Lectures on the Theory and Practice of Midwifery, and on the Diseases of Women and Children, on Tuesday the 7th of October.

Dr. Clough, 68, Berners Street, Physician-Accoucheur to the St. Mary-la-bonne General Dispensary, &c. &c. announces the re-commencement of his Winter Course of Lectures, on the Science and Practice of Midwifery, &c. early in October.

Mr. Clarke will commence his Lectures on Midwifery and the Diseases of Women and Children, on Monday, October 6th, at the Lecture Room, 10, Saville Row, Burlington Gardens.

Dr. Clutterbuck will begin his Autumn Course of Lectures on the Theory and Practice of Physic, Materia Medica, and Chemistry, on Friday, October 3, at his House, No. 1, Crescent, New Bridge St.

Dr. Adams will commence his Course of Lectures at 17, Hatton Garden, on the Institutes and Practice of Medicine, early in October.

Dr. Uwins, Physician to the City and Caledonian Dispensaries, will commence a Course of Lectures on the Theory and Practice of Medicine, at No. 1, Thavies Inn, Holborn, October 3, at 7 in the Evening.

Mr. R. Phillips will commence a Course of Twenty-four Lectures on Chemistry, at No. 66, Cheapside, on Monday, October 6th, at 7 o'Clock in the Evening. Tickets of Admission, and a Syllabus of the Lectures, may be had of Mr. Phillips, No. 1, George Yard, Lombard Street, and of Mr. Edenborough, No. 29, Poultry.

Mr. Good's Course of Lectures on Nosology, Medical Nomenclature, the Theory and Practice of Medicine, will commence on Monday, Sept. 29th, at the Crown and Rolls Rooms, Chancery Lane. The Introductory Lecture will commence at half-past 3 o'Clock; the subsequent Lectures daily at 8 in the Morning. The former will be open to the Medical Public, including Medical Pupils, by Tickets, to be had gratuitously at any of the Medical Booksellers.

Mr. Curtis, Aurist to the Prince Regent, will commence his next Course of Lectures on the Anatomy, Physiology, and Pathology of the Ear, Oct. 1st, at 7 P. M. at the Royal Dispensary, Carlisle St. Soho.

Quarterly Report of Prices of SUBSTANCES *employed in* PHARMACY.

		S.	D.
Acaciæ Gummi elect.	lb.	7	0
Acidum Citricum		28	6
—— Benzoicum	unc.	6	8
—— Sulphuricum	P. lb.	0	7
—— Muriaticum		1	8
—— Nitricum		4	0
—— Aceticum	unc.	3	0
Alcohol	M. lb.	5	0
Æther sulphuricus		10	6
—— rectificatus		14	0
Aloes spicatæ extractum	lb.	7	6
— vulgaris extractum		5	0
Alumen		0	6
Ammoniæ Murias		2	0
—— Subcarbonas		3	6
Amygdalæ dulces		3	0
Ammoniacum (Gutt.)		10	0
—— (Lump.)		5	0
Anthemidis Flores		1	6
Antimonii oxydum		7	
—— sulphuretum		1	0
Antimonium Tartarizatum		8	0
Arsenici Oxydum		3	6
Assafœtidæ Gummi-resina	lb.	8	0
Aurantii Cortex		4	0
Argenti Nitras	unc.	6	0
Balsamum Peruvianum	lb.	30	0
Balsamum Tolutanum		20	0
Benzoinum elect.		14	0
Calamina præparata		0	8
Calumbæ Radix		3	6
Cambogia		9	0
Camphora		7	6
Canellæ Cortex		3	0
Cardamomi Semina opt.	lb.	10	6
Cascarillæ Cortex		8	0
Castoreum	unc.	4	0
Catechu Extractum	lb.	3	0
Cetaceum		3	0
Cera alba		5	9
—— flava		3	6
Cinchonæ cordifoliæ Cortex (yellow)		6	6
—— lancifoliæ Cortex (quilled)		9	0
—— oblongifoliæ Cortex (red)		16	0
Cinnamomi Cortex		17	0
Coccus (Coccinella)	unc.	3	0
Colocynthidis Pulpa	lb.	16	0
Copaiba		5	6
Colchici Radix		3	0
Croci stigmata	unc.	7	0
Cupri sulphas	lb.	1	2
Cuprum ammoniatum		10	0
Cuspariæ Cortex		4	0
Confectio aromatica		10	0

		S.	D.
Confectio Aurantiorum		3	6
—— Opii		6	6
—— Rosæ caninæ		2	0
—— Rosæ gallicæ		2	0
—— Sennæ		2	0
Emplastrum Lyttæ		7	0
—— Hydrargyri		3	6
Extractum Belladonnæ	unc.	1	6
—— Cinchonæ		3	0
—— Cinchonæ resinosum		5	0
—— Colocynthidis		4	6
—— Colocynthidis comp.		1	9
—— Conii		0	9
—— Elaterii		60	0
—— Gentianæ		0	6
—— Glycyrrhizæ	lb.	5	0
—— Hæmatoxyli	nc.	0	9
—— Humuli		0	9
—— Hyoscami	unc.	1	6
—— Jalapæ	Res.	7	0
—— Opii		8	6
—— Papaveris		1	0
—— Rhæi		2	6
—— Sarsaparillæ		1	6
—— Taraxaci		0	9
Ferri subcarbonas	lb.	4	0
— sulphas		2	0
Ferrum ammoniatum		5	0
—— tartarizatum		6	0
Galbani Gummi-resina.			
Gentianæ Radix elect		1	4
Guaiaci resina		7	6
Hydrargyrum purificatum		6	0
—— præcipitatum album		9	0
—— cum creta		6	6
Hydrargyri Oxymurias	unc.	0	8
—— Submurias		0	9
—— Nitrico-Oxydum		0	8
—— Oxydum Cinereum		1	6
—— Oxydum rubrum		5	6
—— Sulphuretum nigrum		0	4
—— —— rubrum		0	9
Hellebori nigri Radix	lb.	3	6
Ipecacuanhæ Radix		16	0
—— Pulvis		18	0
Jalapæ Radix		6	0
—— Pulvis		6	9
Kino		12	0
Liquor Plumbi subacetatis	M. lb.	1	8
— Ammoniæ		3	6
— Potassæ		1	6
Linimentum Camphoræ comp.		5	6
—— saponis comp.		4	0
Lichen	lb.	1	6
Lyttæ		11	0
Magnesia		12	6
Magnesiæ Carbonas		4	0
—— Sulphas, opt.		0	10
Manna optima		6	6
— communis		4	0
Moschus pod, (30*s.*)	in gr. unc.	48	0
Mastiche	lb.	7	0
Myristicæ Nuclei		16	0
Myrrha elect.		8	0
Olibanum		4	6
Opium (Turkey)		36	0
Opium (East India)			
Oleum Amygdalarum	lb.	4	0
— Anisi	unc.	2	9
— Anthemidis		6	6
— Cassiæ		8	0
— Caryophilli		6	6
— Carui		1	6
— Juniperi Ang.		4	0
— Lavandulæ		4	6
— Menthæ piperitæ	unc.	4	0
— Menthæ viridis Ang.		4	6
— Pimentæ	unc.	5	6
— Ricini optim.	(per bottle)	10	6
Oleum Rosmarini	unc.	0	9
— Succini 2*s.* 6*d.* ——	rect.	3	0
— Sulphuratum	P. lb.	1	8
— Terebinthinæ		1	0
— — rectificatum		2	6
Olivæ Oleum	cong.	19	0
— Oleum secundum		13	0
Papaveris Capsulæ	(per 100)	3	6
Plumbi subcarbonas	lb.	0	8
— Superacetas		2	6
— Oxydum semi-vitreum		0	9
Potassa Fusa	unc.	1	4
— cum Calce		0	6
Potassæ Nitras	lb.	1	0
— Acetas		10	6
— Carbonas		4	0
— Supercarbonas		1	4
— Sulphas		1	2
— Sulphuretum		2	6
— Supersulphas		1	6
— Tartras		3	6
— Supertartras		1	4
Pilulæ Hydrargyri	unc.	0	9
Pulvis Antimonialis		0	9
— Contrayervæ comp.		0	6
— Tragacanthæ comp.		0	5
Resina Flava	lb.	0	4
Rhæi Radix (Russia)		30	0
—— (East India) opt.		15	0
Rosæ petala		10	6
Sapo (Spanish)		2	6
Sarsaparillæ Radix (Lisbon)		7	6
Scammoneæ Gummi-Resina	unc	5	6
Scillæ Radix siccat, opt.	lb.	3	0
Senegæ Radix		4	6
Sennæ Folia		6	6
Serpentariæ Radix		7	0
Simaroubæ Cortex		6	0
Sodæ subboras		3	0
— Sulphas		0	3
— Carbonas		6	0
— Subcarbonas		2	0
— — exsiccata		4	6
Soda tartarizata		2	6
Spongia usta		18	0
Spiritus Ammoniæ	M. lb.	5	0
— —— aromaticus		5	6
— —— fœtidus		5	0
— —— succinatus		5	6
— Cinnamomi		3	6
— Lavendulæ		5	0
— Myristicæ		3	6
— Pimentæ		3	6
— Rosmarini		4	0
— Ætheris Aromaticus		7	6
— — Nitrici		5	0
— — Sulphurici		7	0
— — Compositus		7	6
— Vini rectificatus	cong.	27	6
Syrupus Papaveris	lb.	1	6
Sulphur		0	6
— Sublimatum		0	3
— Lotum		1	4
— Præcipitatum		4	0
Tamarindi Pulpa opt.		2	4
Terebinthina Vulgaris		0	10
—— Canadensis		8	6
—— Chia			
Tinct. Ferri muriatis		5	6
Tragacantha Gummi, elect.		8	0
Valerianæ Radix		1	4
Veratri Radix		3	6
Unguentum Hydrargyri fortius		5	6
—— —— Nitratis		2	6
—— —— Nitrico-oxydi		3	0
Uvæ Ursi Folia elect.		5	0
Zinci Oxydum		7	0
— Sulphas purif.		3	0
Zingiberis Radix opt.		3	6

Prices of New Phials per Gross.——8 oz. 70*s.*—6 oz. 58*s.*—4 oz. 47*s.*—3 oz. 46*s.*—2 oz. and 1½ oz. 36*s.*—1 oz. 30*s.*—half oz. 24*s.*

Prices of second-hand Phials cleaned, and sorted.——8 oz. 46*s.*—6 oz. 42*s.*—4 oz. 36*s.* 3 oz. 30*s.*—2 oz. and all below this size, 21*s.*

Dr. James Johnson, Surgeon to His Royal Highness the Duke of Clarence, &c. &c. has in the Press An Essay on the Prolongation of Life and Conservation of Health; unfolding original views and fundamental principles for their attainment, and embracing observations on the nature, cause, and treatment of some of the principal diseases which assail the British constitution in its native climate, &c. &c.

Mr. A. T. Thomson is preparing for the Press a New Edition of The London Dispensatory.

MONTHLY CATALOGUE OF BOOKS.

Account of an Epidemic Small Pox which occurred in Cupar, in Fife, in the Spring of 1817; and the Degree of Protecting Influence which Vaccination afforded; accompanied with Practical Inferences and Observations. By Henry Dewar, M.D. F.R.S.E.

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NOTICES TO CORRESPONDENTS.

In answer to the inquiry of several intelligent Correspondents, why their papers have not earlier insertion? the Editors *beg to refer to the great length, as well as the valuable contents, of several of those which have recently appeared in their Journal. To meet the wishes of their increasing Friends, half-a-sheet more than heretofore has been devoted to* Original Communications; *by which regulation, every Communication will be delayed a still shorter time.*

We *have been very much astonished at the receipt of a critique on a recent publication, on our parts unsolicited, and not even bearing the name of the writer. The Work referred to, we have not seen; therefore know no more of its merits than we do of the pretended critique, which we certainly shall not give ourselves the trouble to peruse.*

This is not the first time that attempts have been made to make our pages the vehicle of self-interested views. These attempts were, however, in the infancy of our undertaking, and when we had a character to establish. Now that we feel that our integrity as Journalists or Reviewers ought to be above suspicion, we confess our surprise that there were those who are still ignorant of the principles on which the Repository *is conducted, and who think so meanly of its* Editors.

THE
LONDON MEDICAL
REPOSITORY.

No. 46. OCTOBER 1, 1817. VOL. VIII.

PART I.

ORIGINAL COMMUNICATIONS.

I.

AN ESSAY ON DISEASES RESEMBLING THE VENEREAL DISEASE.

BY A PHYSICIAN.

(Continued from p. 199.)

PART III.

Of Cutaneous Diseases which may be improperly considered as Syphilitic.

HEAD-ACH, languor, dejection, and debility, with restlessness and fever of a hectic character, are the symptoms which frequently usher in syphilitic eruption. It is often too preceded by an efflorescence of the skin, resembling the roseola annulata. The common spot is flat, circular, slightly elevated, sometimes pustular like variola, but less prominent, without interstitial redness, soon becoming squamous, sometimes confluent, and of a reddish or copper-coloured hue; it occurs chiefly on the face, back, breast, arms, and shoulders. The scale of it falls off, is succeeded by another of a darker colour, and the spot if left to itself proceeds to ulceration. The eruption of syphilis sometimes appears in separate groups or clusters of a gyrated form, slightly elevated, and of a purplish red. When the spot appears on the skin of the palm of the hands, or (which does not very commonly happen) on the soles of the feet, there are small separations of the cuticle frequently recurring. Sometimes a tuberculated eruption appears, of a dusky red colour, not containing a fluid, ultimately becoming scaly and ulcerating. In short, the eruption puts on various appearances, affected very much by inefficient attempts which have been made to cure the disease by the inadequate administration of mercury. There is no description, no exclusive mark by which a venereal spot can always with certainty be distinguished at first sight. Too much stress is laid on the copper-colour of the syphilitic spot, when in fact many other eruptions have that hue in a greater degree. The copper-colour of the spot is best detected by pressing the spot with the finger, drawing the finger over it, and on withdrawing the pressure, the tint will be discovered. The true venereal spot has, generally speaking, a fainter tinge of copper than any other eruption.

But I must recollect that my present business is not to enumerate every possible variety of the venereal spot, but to point out such eruptions as may be mistaken for venereal eruptions.

The eruption of Sibbens has the appearance of being pustular; but Dr. Adams never could discover pus under the the cuticle. It hardens into an irregular, dark brown, crusty, or strong scab. The venereal spot retains longer its copper-colour, and afterwards, becoming more elevated, it retains more the colour of the skin, and the scab when formed is more scaly*. However closely the cuticular affection in this disease may resemble a venereal eruption, we shall be very much assisted in forming a diagnosis by attending to the history of the case; and to the first symptom, which will usually be found to have appeared on the lips and mouth; the knowledge too that the disease is prevalent in the neighbourhood is important: all these circumstances will afford great assistance in enabling us to decide upon the nature of the complaint, which will sometimes be put beyond doubt by the fungated character of the sore.

The eruption of yaws is the first symptom of the disease, if we except a slight degree of fever, which is often unnoticed. Small spots or protuberances less than the head of a pin appear over the body; these are particularly numerous in the face, groins, axillæ, and about the anus and pudenda, in which situations the spot is largest. The crop, when numerous, is composed of smaller spots than when there is a scanty eruption. The spots come out at different times, new ones appearing as the earlier spots dry. The cuticle giving way, a foul crust or slough is formed, from under which red fungous excrescences often spring up, which, from their resemblance to a raspberry, obtain for the disease (of which they form a striking character) the name of yaw, or frambæsia; the former being an African term for that fruit which in French is called *framboise*. During the progress of the complaint, there is no constitutional disorder nor much pain, excepting in those cases where the soles of the feet are affected. When the eruption appears on any part possessing hair, the hair gradually becomes white. The spot of frambæsia is characterized then by a slough with a consequent fungus, and scab. The constitution is generally equal to the cure of the disease, which seems to wear itself out, and the habit once freed from it is ever after unsusceptible of a fresh attack. Such a case will seldom occur in Europe; and when it does, attention to the history of the case with the want of preceding primary symptoms, and the presence of concomitant symptoms, and more especially the fungated character of the sore, will guard us against mistaking the disease for syphilis.

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* Adams on Morbid Poisons.

Elephantiasis is a name which has been confounded with lepra: lepra, which is the true name of a scaly disease, being often by some writers given to elephantiasis, which is a tubercular disease; which last name has also been by the moderns applied to another complaint, more commonly known by the name of Barbadoes swelled leg. True elephantiasis, called also elephantia, leo, or leontiasis, satyriasis, satyriasmus, and herculeus, and by Arabian writers juzam or judam, is accurately and partiuclarly described by Aretæus; it is the disease known also by the name of Syrian or Arabian leprosy, or lepra Arabum; in contradistinction to the true leprosy, which has the title of lepra Grecorum. The disease in its worst form is characterized by the appearance of smooth shining tubercles, of a hue paler at the commencement, becoming of a sanguineous or dusky red as the disease advances. These tubercles appear on the face, alæ nasi, eye-brows, forehead, and extremities. Great deformity of the visage is produced, the alæ nasi become swelled, scabrous, and spread out; the eye-lids thickened, beset with small tubercles, the skin surrounding the eye is contracted into a circular form. The forehead loses it smoothness, the skin of that part and of the cheeks grow thick, tumid, rugous; the external ear enlarged, thickened, and tuberculated; the lips frequently tumid and tuberculated, and consequently shortened so as to expose the teeth. The beard never appears if the disease occur before puberty; after that time it is lost, or is visible only in the interstices of the tubercles. The hair of the eye-brows, pubes, axillæ, &c. falls off; and the voice becomes hoarse and indistinct. The disease advancing, the tubercles crack, becoming covered with a white furfuraceous substance, and afterwards ulcerating. The throat and nose are affected with tubercles and destructive ulcerations; the breath is very offensive; the generative organs disappear; glandular swellings sometimes form in the groin; the tuberculated skin of the extremities becomes divided by fissures and ulcerates, or is corroded underneath by dry sordid scabs, so that the fingers and toes become gangrenous, and separate joint after joint*.

The disease is hereditary, not contagious. Where this disease is prevalent, the symptoms of it are so strongly marked, and so well known, that it appears impossible that it should be confounded with venereal disease; but where it occurs more rarely, and where its form is modified, it is possible that the two diseases may be confounded, more especially where the habits of the patient render it probable that the case may be venereal.

Case.

Mary Cooper, aged 26, gave the following account of herself. Some time about the year 1805 she had two small sores in the vestibulum, a thin discharge from the vagina, and a slight swelling in the right groin. She took pills; the symptoms disappeared; her mouth not being affected. In about six weeks afterwards an eruption appeared on the face in the form of a rash, on the chin and cheek, and afterwards on the left thigh; itching violently. By the advice of a medical man she rubbed in mercury, and took pills. After thrice rubbing in, her mouth became very sore; she therefore discontinued the inunction, but took the pills for about nine weeks. Her mouth was so much affected, and the ptyalism so great, that she could scarcely articulate for two months. When under the influence of the mercury, her forehead and nose were attacked with large red pimples; large tubercles then appeared on the arms and legs, which were preceded by great pain in the limbs, which went away on the coming out of the eruption. The eruption itched violently, then ulcerated and scabbed over. The scabs fell off repeatedly, and when they finally came away (which was in eleven months from the first appearance of the tubercles), they left large white eschars. During this period her arms and legs had become contracted, in consequence of the ulcers in the bends of the arms and in the hams. She went into a hospital, where she used the warm-bath, and took diet drink (or decoction of sarsaparilla), with sublimate drops (a solution most probably of muriate of mercury); her sores were dressed, and all of them were healed at the end of five months, excepting those on the face. She next rubbed in mercurial ointment every night for four months, which made her mouth sore. She was now discharged, her skin being free from eruption and sore. After continuing well four months, large sores appeared on the cheek; she used the diet drink and drops as before for three months, and again got well. In less than two months the eruption again came out on her face, and over the whole body. The drink and drops were again taken for four months; the sores appeared to be better for a time, but soon became as bad as ever. She had at this time an eruption on the face and nose; a few on the body, and sores on the arms, legs, and thigh. The tubercle which constituted the eruption was prominent, red, and was sooner or later covered with a dark brown crust. When I first saw her (which was in May 1808), the face, nose, and forehead, were affected with these tubercles; the ulcers on the body and extremities were pale and indolent, shewing no disposition to spread. It was evident that the ulcerations had been very general, as her body was covered with broad white eschars. She had latterly been taking decoction of the woods, and sublimate, without benefit. A part of one of the alæ nasi was corroded, and the skin round one eye contracted. After trying the powder of the root of mezereon for seven weeks with some slight amendment, I omitted it, and gave her arsenic in combination with a little laudanum and tincture of red lavender; applying externally a wash, in the proportion of about two drachms of Dr. Fowler's solution to half-a-pint of water. This plan succeeded beyond expectation. In a few days her appetite and spirits became much improved; the sores, which before shewed no disposition to heal, rapidly healed; and the eruption subsided quickly. She began this plan August 23, 1808: on the first of October following, no sores or scabs remained on any part, a few red spots only being left in the face; and her general health was very good. I saw no more of her from this time, and cannot therefore say whether the cure was permanent or not*.

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* Bateman's Synopsis of Cutaneous Diseases; Adams on Morbid Poisons.

I cannot positively assert that this case was mistaken for a venereal case, although it probably was, if we may judge by the liberal use of mercury at one period. It certainly was thought to be a venereal affection by the patient, who obtained admission into a venereal hospital; and it may therefore be fairly presumed that her case was at least considered doubtful, by her being suffered to remain in a place exclusively devoted to venereal patients. I considered her account of its progress to be very correct; for being much interested in the case, I took her statement at different times, and always found her accounts correspond.

This case shews the necessity of minutely enquiring into the history of a disease; had that been done in the case of this woman, she need not have associated for so many months with infected women of the town, labouring the whole time under the imputation of having a syphilitic disorder. These observations, which cannot be too strongly enforced by precept, and by example, apply strongly to another case which occurred not long after the one just related, and which I shall also transcribe:

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* I take this case from notes made at the time.

CASE.

Elizabeth Evans, aged 23, stated her case to me as follows*: —In 1804, in the fourth or fifth month of pregnancy, (she being unmarried,) she noticed a thin discharge from the vagina unattended with pain or uneasiness. She lay-in in September of the same year; the discharge continued: she again became pregnant, and was brought to bed in November 1805. The discharge lasted until November 1807, in which month a swelling appeared in the right groin, which became as large as a hen's egg. Poultices were applied to it, and in five weeks it subsided. She was menstruating just before the appearance of this swelling; but this ceased as well as the discharge, and neither secretion has since re-appeared. For this swelling she took mercurial pills for six weeks, which affected her throat; and, when under the influence of these, she went out on a snowy day; at night she felt chilly; pains attacked the back and extremities, and she ultimately lost the use of her limbs. With the pains, tubercles appeared on different parts of the body, seventeen in number, distributed as follows: on the forehead; internal angle of the right eye; right alæ nasi; left cheek; angle of the mouth; left shoulder; left arm; spine; right thigh; right shin: on each of these situations, one tubercle; on the left thigh, two; and on the left hip, five. These tubercles soon ulcerated, forming spreading sores. She was attended by a surgeon from the middle of January to the latter end of February (1808). Under his care all the sores healed excepting that on the forehead, that at the internal angle of the right eye, and that on the right pinna nasi: these two last had united, forming an irregular sore which extended across the nose. The os frontis was partly exposed. She now applied to a hospital, where she became a patient in the beginning of March 1808. In addition to her sores, she had slight pains in her limbs. Here unfortunately for her, but a slight inquiry was made into her former symptoms; and, from the inspection of her present state, her case was considered as venereal. She rubbed in mercury from the 3rd of March to the 28th of the same month, which made her mouth very sore. She then took nitric acid, guaiacum, and mezereon; and whenever the mouth was tolerably well, mercury was administered from time to time in the form of muriate of mercury; a few doses of which invariably affected her mouth, which was more or less sore till the February following (1809). I speak latterly from my own knowledge, as I saw her every day, although she was under the management of another. Common digestive ointment with a little red precipitate of mercury constituted the dressings. At this time she came under my care: I made an inquiry into the history of her case, which she gave me as above; I of course did not consider the symptoms as syphilitic. The sores now shewed not the least disposition to heal. The sore on the forehead was very extensive, and thin scales of bone had separated at different periods. Her health was much impaired by having been closely confined for nearly a year in a mercurial ward, the whole of which time she was more or less under the influence of mercury. I gave her two table-spoonfuls of the following mixture twice a day, continuing simple dressings:

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* This was taken down in 1809.

℞ Solut. Arsenic. Dris Fowler. gutt. lx.
Tinct. Opii. gutt. xl.
—— Lavend. C. ℥ss.
Aq. distillat. ℥v. Misce.*

Soon after the use of this medicine the sores assumed a more healthy appearance; scabs formed on the surface of them; and when these fell off, they left a sound surface underneath. When I last saw this patient, which was in the May following, the face was quite well; a *very small* sore or speck remained on the forehead, which I attributed to the presence of a thin scale of dead bone which had not separated, but this was hardly to be noticed. Her health was much improved, and she had lost that languor and dejection of spirits which had so long weighed her down.

I have related these cases at length, in the hopes that the practitioner may be induced to hesitate, before he condemns a patient to the punishment of a long course of mercury. Both were under the management of men, high in the profession, whose practice was chiefly in venereal complaints. I take no merit in detecting their error, as I had more leisure than they had to inquire minutely into the history and progress of the disease; which being done, I could not possible consider the symptoms to be syphilitic.

Lepra generally attacks the extremities, extending to the breast and shoulders, and to the loins and sides of the abdomen.

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* This is the manner in which I always administer arsenic. I do not assert that it is the best method, but I have found no reason to alter my practice.

The hands become affected; the face but rarely; the scalp is also attacked. The eruption comes out first under the form of small, round, reddish and shining elevations of the skin, at first smooth, but in a day or two exhibiting thin white scales on their tops. These increase to the size of half-a-crown, still continuing oval or circular, and are covered with shining scales, encircled by a dry, red, and slightly elevated border. The scales sometimes accumulate, so as to form thick crusts. If the scales or crusts are removed, the skin appears red and shining, very smooth, and free from the cuticular lines in the beginning, but marked, in the advanced stages, with long deep lines and reticulations, not always coinciding with those of the adjoining surface. There is but little inconvenience attending the eruption when it is mild in degree and extent, a little itching excepted; but where the eruption is more diffused, and much inflammation is present, there is great soreness, pain, heat, and stiffness. The constitution however is not disturbed*. The spot of lepra is sometimes very small, and its scales very white: this constitutes the lepra alphoides, which is confined to the extremities. The patch is sometimes of a more dark and livid hue, and is then termed lepra nigricans†. The venereal leprous spot is smaller; its surface and margin more smooth and soft; the colour of its base, generally speaking, is of a darker red or copper colour, resembling more the lepra nigricans than the other forms. To describe every variety of cutaneous affection, which, separately taken, might be considered upon inspection as venereal, would not only exceed the limits but also the design of this Essay. Whenever a patient shews us an eruption, the nature of which we do not exactly understand, we should inquire what constitutional symptoms preceded its appearance, whether any primary affections resembling those of syphilis have been present; if they have, we must carefully ascertain if possible the character of them. Whether sore-throat has been or is present; if so, what the character of that sore-throat is. Whether any state of stomach, or any thing taken into the stomach previously to the appearance of the eruption, or exposure to cold, may have led to it; or whether it is possible that the occupation of the patient, such as the trade of a baker, or the employment of a washer-woman, may be the cause of it (in which last cases the eruption will be on the hands and wrists); and whether want of cleanliness may not have produced it. A spot which resembles that of syphilis occurs sometimes unattended with any constitutional disorder, excepting perhaps languor and debility; which spot is not circular, but rather pentagonal. The eruption may be the effect of mercury, constituting the affection which has been described under the names of hydrargyria, eczema, or erythema mercuriale, and mercurial lepra. A very small quantity of mercury sometimes brings on this eruption, such as an alterative dose of calomel, or even the sprinkling red precipitate on a sore. The period at which it occurs is uncertain; but generally within the first fortnight. Cold is mentioned by many as the exciting cause; but in two well-marked cases that came under my notice there had been no exposure to cold; both happened in the autumn; but not one case occurred in the venereal hospital in the course of the whole following winter. As one of the subjects of these cases was a male and the other a female patient, and as in both the affection was very violent, I shall here insert the cases.

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* Bateman.

† Ibid.

CASE.

William Wright, aged 27, had a large sore behind the corona glandis, for which he was ordered to rub in mercurial ointment. He began his course on the first of October; this he persevered in till the fifth of November following, having in the course of that time used about ℥iv of ointment. On the morning of the last-mentioned day he was extremely hot and thirsty, and he complained of great itching, chiefly about the organs of generation, and at the upper part of the thighs, with a thickened and greasy appearance of the scrotum, and tumefaction of the prepuce, together with great dejection of spirits. On the following day there was a general florid appearance of the skin; an eruption then came out in the groins and upper part of the thighs in the form of small pustules, extending itself, in the course of two days, over the breast. At this time (November 8), the ears became hot and tumefied, and a general oozing of a purulent fluid took place from the pinna and lobe of each ear, and from the skin covering the angle of the lower jaw. On the following day a pustular eruption (resembling the pustular venereal eruption) appeared on the arms, beginning on the hand, extending upwards; the eruption extended downwards to the legs, the appearance at the upper part of the thighs being that of a general diffused redness. November 14th, on the breast a few pustules remain; on the fore arms the puctules have discharged their fluid, but on the backs of the hands they are very prominent and large, filled with a greenish pus. The pulse and appetite natural; great dejection of spirits. The skin covering the angle of the lower jaw encrusted with scabs.

December 3. The patient's health suffered considerably from confinement; there was extreme debility; he was ordered out of the hospital for change of air, and I never saw him afterwards. I much fear that he fell a sacrifice to the disease.

CASE.

Elizabeth Mash, aged 16, had gonorrhœa and bubo. She was ordered to rub in on the 7th August. On the 20th of the same month (having then used about an ounce and a half of ointment), very small red pimples in a confluent state appeared on the chest, attended with great itching, in the course of the day becoming general over the whole body. The eruption did not appear (to the naked eye) to contain a fluid.

On the 25th the eruption was covered with a fine thin white desquamation, the skin in many places appearing as if covered with flour. The general health not much affected

27th. The eruption is now no longer defined (except in a few places), appearing like a general erysipelatous inflammation; one general blush of a bright red colour having, in the different parts of the body where it terminates, a determined edge, disappearing on pressure. The white desquamation has nearly disappeared, and there is a slight effusion from the parts that have thrown off the thin scales. 30th. Cuticle peeling off in large white scales, with great effusion from the parts underneath, which are of a deep tinge; the discharge particularly copious in the angles of the thighs, making the linen quite stiff. The arms and thighs swollen. Great heat, with frequent and strong pulse. During the first part of the following month (September), the cuticle continued to peel off in large flakes from the trunk and extremities; the face and neck as if covered with flour. The effusion from the thigh continuing. September 20th, Cuticle has finished peeling off. Thighs well.

I have related these two cases, as they comprehend the different appearances of this disease, which will be sufficiently distinguished from syphilitic eruptions, by attention to its characters, progress, and symptoms, and especially by its coming on when the patient is under the influence of mercury. Even where the disease of the skin is caused by a small portion of mercury, and appears more partially, it will still be distinguished by its appearance, by its white desquamation, by its not leaving a spot or ulcer, and by its disappearing in the course of a few weeks.

Ulcerations on different parts of the body may be mistaken for that ulceration which is the last stage of the venereal spot. It is impossible to enumerate every kind of ulcer that may at first view, from its situation and appearance, be mistaken for a venereal ulcer. We must form our diagnosis from the history of the case, from previous and concomitant symptoms, from the knowledge that mercury has or has not been used, from the effects of it upon symptoms where it has been employed, and particularly from the character of the spot which preceded the ulcer. The venereal secondary ulcer has generally unequal hard edges; its surface smooth and red, sometimes fungous; the discharge from it viscid, tough, and offensive; sometimes of a greenish yellow, seldom attended with much pain. The scorbutic ulcer is a spongy sore, fungous, with livid edges, discharging a thin bloody sanies, connected generally with debilitated habit. The scrofulous ulcer is pale, indolent, not very sensible or painful, discharging a colourless unhealthy viscid fluid, with edges not much raised, of a glassy pale-red appearance, sometimes tumefied. The sore generally sunk in, sometimes forming fungous granulations, but commonly smooth and void of granulation. They are often accompanied with constitutional symptoms and affections of the body, which sufficiently mark the nature of the ulcer.

The cancerous ulcer is irregular, and commonly unequal. Its edges hard, thick, indurated, and irregular; reversed in different ways, inverted, retorted, or serrated; and very painful. The discharge a thin, fœtid, dark-coloured, acrid sanies. The ulcer is progressive, attended with lancinating pain; and, unfortunately, it is incurable in the present state of our art.

(To be continued.)

II.

Observations on Serous Effusion. By Edward Chapman, Bath, Surgeon.

Besides mortification, abscess, and resolution, there is another very frequent termination of inflammation; which, as it consists in the exudation of serum or coagulable lymph from the exhalants, or the extremities of the arteries which are the subjects of the disease, may properly be termed *serous effusion.*

This serous effusion, as one of the consequences of inflammation, has, I believe, very generally been omitted to be considered as such by writers on this subject; and for the knowledge of this very important fact, the profession is indebted to Dr. Parry of Bath, who has recently given the subject very ample investigation in his Elements of Pathology. It is the more astonishing that this circumstance should have escaped the attention of even the earliest physiologists, since it is perhaps not less frequently the method which Nature adopts for the relief of inflammation than any of the three afore-mentioned and universally admitted; nay, instances the most familiar to us are constantly occurring, tending to illustrate, in a most forcible manner, not only the frequency with which it supervenes to local excitement from inflammation, but that it is the means which are naturally instituted for the cure of inflammation in almost every situation. This a blister-plaster very happily exemplifies, by the serous effusion which uniformly succeeds to the inflammation excited by its application on the surface of the skin; and a similar effect is very generally occasioned through a medium precisely the same, namely, by the excitement of an increased arterial action or determination of blood by the exhibition of heat.

These instances, however, are confined to the cuticular surface; but the serous effusion consequent on inflammation is by no means confined or peculiar to the structure of this part, or the method by which the inflammation is excited; but on the contrary, as will be seen in the sequel of these remarks.

In common, however, with the three distinct kinds of inflammatory termination mentioned, and universally admitted, serous effusion takes place with a greater or less degree of frequency, depending on the structure and situation of the parts which have suffered from previous inflammation. Mortification is more frequently the consequence of inflammation in those parts which are sparingly supplied with blood; such, for instance, as tendon, bone, fascia; because from the extreme deficiency of their circulation they are incapable of sustaining without such an occurrence the sedative effect uniformly produced in every situation from previous excitement. Mortification, again, very rarely occurs to secreting membranes, whatever be the extent of the inflammation; and abscesses in a very few instances are met with in bone, tendon, or ligament, but most frequently are produced as the consequence of inflammation in the muscle or the cutis vera.

In like manner, therefore, as the other modes by which inflammation is usually terminated are influenced by the structure and situation of the parts suffering from inflammation, just so is serous effusion in a great degree the effect of the same cause, although not entirely confined to parts of a membranous structure, and of these to *serous* rather than to *mucous membranes*.

If inflammation happen to the pleura, and the attack be not sufficiently acute, to destroy life, in the generality of cases, under judicious treatment, it will terminate favourably in resolution: or, in other words, the membrane will recover its natural state without having suffered any sensible disorganization or injury of structure: were, however, in such a case the inflammation to be unarrested in its progress by any medical means, and be permitted to proceed to its natural termination, in an equal number of cases Nature, with a view of relieving the membrane from the existing inflammation, by occasioning a relaxation of the extremities of the vessels, or exhalants opening on the surface of the pleura, would cause an adequate effusion of serum into the cavity of the chest, and thus hydrothorax would be produced. Upon the same principle, if inflammation of the peritoneum under the same circumstances occur, and, unassisted by art, be allowed, as in the afore-mentioned instance, to proceed to the natural cure, in the greater number of cases it would happen, that the inflammation would be relieved by the unloading the vessels of a quantity of serum proportionate to the degree of inflammation, and thus ascites would be established. Hydrocele is produced in a manner precisely similar as the effect of previous inflammation of an existing determination of blood to the *tunica vaginalis;* hydrocephalus from an increased arterial action in the vessels of the serous membrane of the brain; and hydrops pericardii from a determination of blood to that membrane, being a serous one in common with the pleura, and by a duplicature of which it is itself constituted.

From these observations it would appear, that dropsical accumulations, in whatever cavity they may have taken place, are uniformly the effect of one and the same cause; namely, an increased determination or influx of blood to the vessels of the part by which the cavity is bounded. But in objection to the admission of this opinion, and more especially as it applies to dropsy of the belly or ascites, it may be urged, and indeed I have heard it stated, that in a majority of cases the accumulation supervenes to no one symptom indicative of peritonitis; this being fairly deducible from the absence of all pain, and a sufficient degree of general disturbance to occasion a suspicion of its existence.

As the substantiation of this objection, although limited in its applicability to the single case of ascites, would bear forcibly upon the general principle, namely, that *dropsy is invariably the effect of an augmented circulation, either local or general;* yet it should be stated, that, notwithstanding it is maintained that the quantity of serum effused into the abdomen in common with every other cavity, is the effect of the afore-mentioned cause, it is not implied, neither is it necessary to the production of the disease, that actual inflammation shall have preceded such effusion; since it is susceptible of proof, that the circulation in any given part may suffer augmentation from various causes to an indefinite extent, without the presence of any inflammation in the part so affected.

There is a very material and important distinction to be made between what is properly termed by Dr. Parry simple excessive determination, and inflammation: an increase of circulation, although invariably concomitant with inflammatory action, yet is by no means peculiar to or characteristic of such a state; for we have commonly an undue influx or determination of blood by the internal carotid arteries to the brain in the absence of phrenitis, and to the lungs by the bronchial arteries, occasioning dyspnœa, without the existence of pneumonia; and in common with such examples, augmented circulation in the peritoneum, pleura, the serous membrane of the brain, tunica vaginalis, &c.; and as its consequence, dropsy of the several cavities of which these membranes constitute the boundaries, without any indication of the presence of inflammation.

But in the adduction of instances exemplifying the necessity of distinguishing between the two distinct states of augmented circulation, in as much as it may occur with or without inflammation, we need not descend into the detail of diseased actions, but simply confine ourselves to phænomena which are hourly occurring, without any, even the most trivial deviation from the healthy state. By a variety of impressions of which the brain is susceptible, and under every emotion of the mind, such, for instance, as anger, joy, hope, fear, &c., the quantity of blood usually circulated through the cerebral vessels suffers a very considerable and remarkably sudden augmentation; and so great is the increased determination to the brain at the time of deep meditation, that I have repeatedly seen as the consequence of such determination, a motion correspondent with the systoles of the heart imparted to the head, which, otherwise, when uninfluenced by this circumstance, remained perfectly at rest.

Hence the fact of the existing difference between excessive determination and inflammation arising out of the circumstance, that the former is not peculiar to or characteristic of the latter, and that augmented circulation commonly occurs both in diseased and healthful actions independent of any inflammation, appear to be established.

On the other hand, the majority of authors have considered that dropsical accumulations are commonly the effect of a diminished activity on the part of the absorbent vessels. On examining this opinion, it occurs to us: do the absorbents possess in themselves the power of varying their degrees of activity? and again, under what circumstances are they influenced so to do?

Although our knowledge with respect to the absorbent vessels, and the phænomenon of absorption, is at present extremely limited; yet all the facts, to the possession of which we have arrived, illustrate in a manner the most striking, and combine to prove, that the absorbent vessels are destitute in themselves of any power by which they are enabled to increase or diminish their actions: Moreover, it involves in doubt the generally admitted fact, that they are capable by a power inherent in their coats, of conveying materials to the circulation; and even forcibly suggests the idea, that they are simply passive tubes, and that all their functions are referable to the principle of *capillary attraction*.

They who have advocated the opinion, that dropsical accumulations are commonly the effect of a diminished activity of the absorbent vessels, should not have remained satisfied with barely being enabled to account by such means for the accumulation, and consequently have deduced an inference at variance with the idea, that dropsies are uniformly occasioned by augmented circulation; but they should have examined how far the absorbents are liable to suffer from a diminution of activity. From such an investigation, they would discover that this diminished activity of the absorbents is incapable of being directly induced by any power of their own; that every increase or decrease is produced indirectly; and lastly, that their functions vary in their extent with the quantum of circulation, with which they uniformly bear a relative proportion. In proof of the dependance of the absorbent powers on the quantum of circulation; or, in other words, that whenever the circulation is increased, the absorbent powers are diminished, and vice versâ; a very familiar example is afforded by the rapid absorption of fat, which uniformly takes place, as the consequence of a decrease in the quantum of circulation. If a man be in health, and his mode of life be such as to induce in his constitution a state of plethora, the absorbents become exceedingly inactive, and an accumulation of fat consequently takes place; if from any cause however there should exist a necessity for the abstraction of blood for the administration of sedative medicines; or, if by any cause a decrease in the circulation should be induced, in proportion to this decrease will the powers of the absorbents be increased, and the accumulation of fat be diminished. This, however, is only one among the very many instances tending to prove the existence of this general principle. We very frequently avail ourselves of it advantageously in the treatment of diseases; and I am inclined to think, that a knowledge of it is of more importance to the practitioner than any other with which we are acquainted.

In the application of blisters on the surface of the skin for the purpose of promoting the absorption of depositions of whatever kind, whether pus, serum, &c. we expect that effect through the medium of determining to the skin an increased quantity of blood; and so, by diminishing it in the subjacent parts, to increase the activity of the absorbents. In some cases of hydrocele, the keeping up a constant determination of blood to the external scrotum by means of blisters, emetic tartar, &c. will, in consequence of the diminished circulation in the tunica vaginalis, not unfrequently occasion the absorption of the fluid. To say more on this head is quite unnecessary, since on further investigation of the subject it will be found, that instances may be multiplied ad infinitum, each in itself sufficiently to establish that the absorbents are entire dependant in their exertions on the circulation, that they are incapable of increasing their activity but by a *diminished* circulation, and that they are incapable of decreasing the same but by an *increase* of the circulation.

Admitting, therefore, that diminished activity on the part of the absorbent vessels be the more immediate cause of dropsy, it is very evident, that this diminution is the effect of an increased circulation, either general or local, in the part, into the cavity of which the accumulation has taken place; and since the augmented circulation alone is sufficient to account for the effusion, without the interference of the diminished activity of the absorbents, it leads to a practice precisely similar; as it implies that dropsical accumulations, in whatever cavity they may have taken place, are invariably the consequences of *augmented circulation.*

Taking this view of the subject, it would appear that as the cause of dropsy is uniformly the same, the indications of its treatment would also be the same, in every variety of the disease. But however, as in every cavity into which an effusion is likely to supervene to previously augmented circulation there are situated organs, any impediment to the functions of which is of greater or less importance, this subject had better be treated of under distinct heads.

III.

On the Cure of Bronchocele by Pressure. By James Holbrook, Monmouth, Member of the Royal College of Surgeons in London.

Several cases of *bronchocele* having lately come under my notice, and having been able to collect little satisfactory information from books on the subject, I am induced to request the insertion of the following in the *Repository.*

From the number of cases that exist in this part of the country, I think the disease may be said to be here endemic; although, as far as I can learn, this circumstance has never had any particular attention bestowed on it.

Before my settling in this town, the disease was only known to me by name; no case having come under my care. I therefore had formed no other notion of the disease than the general one, of its being an enlargement of the thyroid gland, and that it was often peculiar to particular countries: but, remarking their frequency in this vicinity, I think the circumstance worthy of particular notice, and entertain a hope that it may lead to the affording of some relief to the subject of so unsightly a disease.

Amongst the vulgar these tumours have the name of wens; and, from remote superstition, various charms have been had recourse to for their removal, such as the application of a dead man's hand, &c.

The first case that came under my notice for treatment was that of a poor woman, to whom I was sent for by a gentleman who resides a short distance from this town, whose kind attention to the poor labouring under disease is well known. He had an opinion that the tumour was of a size that nothing but an operation could relieve her. Indeed, the state I found her in fully warranted this conclusion.

The tumour, of an enormous size, hanged down and rested on her breast; respiration was almost totally obstructed; her voice was hoarse and difficult; and her countenance full and livid. Something was absolutely necessary to be immediately done. The removal of such a tumour was out of the question. Considering, therefore, that under such a state the circulation of the blood through the lungs must be considerably impeded, and that in all probability an inflammatory state of the membrane of the larynx and trachea must exist, together with general congestion of blood in the parts, I preferred a large bleeding from the arm. By this, my expectations for a time were fully answered; but, unfortunately, the relief was temporary. The situation of the patient became desperate; but, as she was resigned to any thing that might afford the smallest prospect of relief, it was determined, as the only likely means, to tie the superior thyroideal arteries, being, I believe, the only approved way of performing this operation.

Dr. Bevan of this town did me the favour to accompany me to the proposed operation; but unfortunately on our arrival at the house our hopes were disappointed by the patient having suddenly expired, apparently from suffocation.

DISSECTION.

An opportunity was afforded of examining the morbid parts. The integuments were turned back on each side, and the tumour dissected out, together with the larynx, trachea, and principal arteries, with the parts of the carotids from which they were given off. The whole together weighed about ten pounds. The trachea was completely encompassed, the two lateral portions of the tumour meeting behind; which circumstance may account for the great impediment to respiration. Some slight appearance of inflammation appeared to exist in the internal membrane of the larynx and trachea, but not sufficient to account for the fatal termination. On cutting into the tumour no alteration of structure appeared to exist, except a few cells containing a watery fluid, but simply an increased growth of the gland, rather firmer than natural. The vessels supplying the gland appeared larger than usual.

From the above statement no new light would appear to be elicited that might induce a more successful practice than has hitherto prevailed in treating this disease. I was happy, therefore, to adopt any hint which might guide my future practice.

A friend of mine, once a practitioner in surgery, informed me; that in his youth he was afflicted with a bronchocele which progressively enlarged until he took to wearing neck-handkerchiefs, after which it gradually disappeared. Reflecting afterwards on his own case, he considered the subsiding of the swelling to have been occasioned by the pressure of the handkerchief. He determined, therefore, to try its effect on others, and the result answered his expectations.

Upon this information, and having reason to believe, from the dissection of so advanced a case as the one related, that no specific diseased action exists in these swellings, I resolved on giving pressure a trial in any cases that might again come under my care.

Of seven cases in which I have since used this method, all have been lessened, and two incipient ones were completely removed by it.

In each of these patients there existed an unusual irritable state of the system, accompanied with a quick pulse; although none of these ever complained of ill health.

Still supposing that a general increased action of the sanguiferous system might give a tendency to the enlargement of the gland, I did again, in one or two of the above cases, have recourse to bleeding, and I think with advantage. At the same time, in all of them, I should observe, that I endeavoured to controul the circulation by digitalis, usually combined with burnt sponge, and in conjunction with the pressure.

Some may perhaps attribute the benefit which has accrued in these cases to the effect of the digitalis or burnt sponge; but my own conclusions are in favour of the pressure.

IV.

Further Observations and Experiments on the Motion of the Blood.

By Charles Hastings, Edinburgh.

IN Medical Science, we have but too often to lament the imperfection of our knowledge of the animal economy; and this is assuredly true as regards the phenomena of the circulation.

The author of the following observations does not profess to throw any new light on this subject; but he wishes to demonstrate the fallacy of some late opinions.

With this view, he will first endeavour to disprove Dr. Johnson's assertion, that the arteries are of the same capacity during the systole and diastole of the ventricle*.

The arteries being elastic tubes, and subject to the physical laws of tubes in general, may have their capacity for containing matter increased in three ways:

Their diameter may be increased, the length remaining the same; or their length may be increased, their diameter remaining the same; or these two effects may be combined.

Let us now inquire whether any or all of these effects take place in the case of the arteries: let us investigate the evidence upon the subject.

And first, (as we before contended it was) whether, from the impetus with which the blood is propelled from the ventricle, the diameter of the arteries is encreased?

There is certainly opposition of opinion amongst physiologists on this point.

Bichât, from experiments on dogs, is led to deny that the diameter of the artery is increased during the contraction of the ventricle†.

Dr. Parry has more lately been occupied on this subject; but has not, when cutting on the arteries of dogs, horses, and sheep, been able to discover any alteration in the capacity of the vessel by the most accurate measurement‡.

The indefatigable and accurate Haller says, "Mihi quidem de phenomeno ipso dubium nullum superest. Etsi enim utique non rarum est, in vivo animale inciso pulsum nullum adparere, neque videri arterias dilatari, tamen frequentes satis observationes sunt, utique dilatationem et oculis, et tangenti digito fuisse manifestam, ut arteriæ arcum majorem describant, dum dilatantur*."

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* Dr. Johnson's *Observations on 1st Experiment in his Reply to Dr. Parry.*

† Bichât, *Anatomie Generale.*

‡ Parry *on the Pulse.*

Spallanzani made numberless experiments on cold-blooded animals, as frogs and lizards; and some to prove this very question: he found, on repeated trials, by passing a ring around the aorta, of a somewhat larger diameter than the vessel, that the space included between it and the vessel was much less during the pulsation, but became more considerable during the contraction of the vessel; and, in some cases, the dilatation was so great, that the lateral capacity of the vessel was increased one half†. Besides, he found, on several trials, that the aorta of salamanders, after being cut out of the body, contracted and dilated as long as the heart.

Majendie, after mentioning Bichât's opinion, has these words: "Ils sont, par exemple, évidens dans les grosses artères telles que l'aorte pectorale ou abdominale, surtout dans les grands animaux; mais, pour les rendre apparens sur des artères plus petites, il faut faire l'expérience suivant: mettez à découvert sur un chien l'artère et la veine crurale dans une certaine étendue, passez ensuite derriere ces deux vaisseaux une ligature, dont vous nouerez fortement les extrémités à la partie postérieure de la cuisse; de cette manière le sang artériel n'arrivera au membre que par l'artère crurale, et ne retournera au cœur que par la veine; mesurez avec un compas le diamètre de l'artère; puis pressez la entre les doigts, pour y intercepter le cours du sang; et vous la verrez peu à peu diminuer de volume au dessous de l'endroit comprimé et se vuider du sang qu'elle contenait. Laissez ensuite le sang pénétrer de nouveau encessant de la comprimer, vous la verrez bientot se distendre à chaque contraction du ventricule, et reprendre les dimensions qu'elle avait précédemment‡."

We have frequently discovered alternate increase and decrease in the diameter of the larger sized vessels, but certainly not in the smaller ones.

The evidence then comes to this: the increase and decrease of diameter has been seen and described by many authors, but not by all; and because a few have not seen the dilatation, are we to discredit many authentic witnesses, and assume that it does not happen?

Are we to set aside the testimony of Spallanzani? and conclude, that it was an optical deception which induced him to say, that the vessels nearly filled the ring during pulsation, but left a larger space during contraction? Or,

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* Haller's *Elementa Physiologiæ*, tom. ii. p. 238.

† Spallanzani *on the Circulation*, p. 146—167.

‡ Majendie's *Précis Elémentaire de Physiologie*, p. 319.

Are we to affirm, that the immortal Haller was misleading us, in saying, that in many instances he had not seen the dilatation; although the instances in which he had were too numerous to admit his doubting the fact?

No: We must refer our not always detecting the dilatation to the imperfect mode by which we scrutinize these operations of Nature. We cut down on a vessel and expose some inches of it; we, by separating from its natural connections, and roughly handling it with our fingers and dissecting knives, expose the vessel to a very violent stimulus; this, by irritating, excites a strong contraction in the vessel, which often enables it to resist the impetus of the blood, which, in the natural state of things, dilates it.

That this contraction does takes place by stimulants is directly proved by experiments.

Dr. Thomson found the arteries in the frog's foot contract by the application of ammonia*.

Dr. Parry's experiments shew, that the mechanical stimulus to which the artery is subjected by denuding it, causes it to contract, although the action of the heart continues: in experiment 24, on first laying bare the carotid it was $\frac{225}{400}$ of an inch in circumference; after being denuded half an hour, it was only $\frac{182}{400}$ of an inch†.

Verschuir, who published an inaugural dissertation at Gottingen in 1766, after having described the dilatation which takes place in the artery, recites the effect of exposing it in these words: "Observari, nempe, in primis sub experimenti initio arterias diametro minores adparere, solitoque contractiones, dum pulsus vix oculis erat conspicuus, nec observabilis fere in diastole et systole diametri mutatio arteria ad digiti attactum inveniebatur rigida, dura sentire tamen potui digitis motum quemdam parvum, celerem, tremulum a cordis hæc non pendere exin manifestum, quod quandoque non simul in omnibus arteriis, quas denudaveram, hæc observare liceret, unius nempe arteria pulsus erat quandoque parvus diameter contracta, &c. dum alia arteria pulsu satis libero imo celeri a forti agitabatur: post aliquod tempus sæpe cessabant hæc symptomata, arteria diameter augebatur pulsus erat liberior et fortior egregie observabilis‡."

The writer has several times cut down on the carotid artery in dogs, and more than once the irritation produced various contractions in some small vessels which were given off, and the size of the vessels became greatly diminished. These facts are sufficient to shew that the irritation of the vessel may frequently prevent the dilatation in a denuded artery.

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* Thomson *on Inflammation.*

† Parry *on the Pulse.*

‡ Verschuir *de Arteriarum et Venarum Rei Irritabili,* p. 22.

The weight of evidence then is decidedly favourable to the opinion of those who hold the diameter of the vessel to be increased during the contraction of the ventricle.

The next question to be solved is, whether or not the arteries become lengthened during the contraction of the ventricle? if the tube be lengthened and its diameter not diminished, it is quite clear the capacity must be increased.

Haller might be here referred to; but as Dr. Johnson has appealed to Bichât, he can have no objection to part of the reasoning being founded on so firm a basis. After having said that he could not detect transverse dilatation, and that the arteries are not extensible in this manner, he observes, "Dans le sens longitudinal, les artères sont plus susceptible d'alongement que dans le précédent. On peut s'en assurer en tirant ces vaisseaux pour en faire la ligature sur un moignon amputé*."

Again, "Il y a alors deux temps dans le mouvement du sang rouge: 1°. contraction du ventricule; dilatation légère du système arteriel par le sang qui y entre; locomotion generale; passage dans le système capillaire d'une portion de ce sang rouge: tous ces phénomènes se passent dans le même instant; c'est le temps où le pouls vient frapper le doigt, celui de la diastole. 2°. Dans le temps suivant, le ventricule se relâche pour se remplir de nouveau; moins pleines du sang, les artères reviennent un peu sur elles-mêmes; toutes reprennent la place qu'elles avoient perdue pendant la locomotion: c'est le temps de la systole, temps purement passif, tandis qu'on le croit très actif pour les artères†."

Here then we find Bichât, the most accurate experimenter of his time, asserting that this locomotion and lengthening of the artery are quite evident in the living animal; and these have been generally allowed, till Dr. Parry's experiments have been accounted by some as throwing doubt on the subject; although, certainly, the result of these experiments by no means countenances such a doubt.

Dr. Johnson makes two of these experiments the grand fulcrum on which he supports his hypothesis. But that gentleman need not be reminded, it is not the result of two experiments that is to guide us; we must sum up and review the whole evidence, and draw our conclusions accordingly: by so doing, we shall find Dr. Parry's experiments oppose the very opinion it is intended they should support. We need only refer to experiments 1, 2, 3, 4, 5, and 7, in which there was no longitudinal movement detected, and to experiments 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 25, in which it was evident. From these experiments, we must conclude that there is longitudinal movement; for in six instances only it was not detected, whilst in fifteen it was observed.

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* Bichât *Anat. Gen.* tom. ii. p. 307. † Ibid, p. 336.

It is very easy to account for the want of locomotion in the six cases; for persons in the habit of making experiments must have been subject to the same fallacy: in cutting down on the artery in the neck, the head is held so far back, and the parts are put so much on the stretch, that no movement can take place; but it always happens if the head be raised to its natural state when this operation is performed.

That Dr. Parry was subject to this fallacy may be collected from the 10th experiment: "when the neck was stretched out, the influence of the systole of the ventricle on it was obscure; but apparent when it was bent in a somewhat natural posture, as the dog lay on his side."

And let it not be said that this motion was trivial. In one instance, in which it appeared slight, the carotid advanced $\frac{34}{100}$ of an inch; and in others, "there was various modes of locomotion, such as lateral, forwards and backwards, and longitudinal in both directions." Here then the evidence Dr. Johnson adduces turns upon himself.

The writer may add, that he has frequently had occasion to lay bare the carotid and femoral arteries in dogs and rabbits, and, when the parts were not put on the stretch, could always detect the longitudinal movement.

From this then it appears, that the evidence is decisive as to the lengthening of the artery during the systole of the ventricle; and we have before shewn this lengthening must cause an increase of capacity in the tube.

From the inquiry we have instituted, it appears as clear as any fact can be, that the capacity of the arteries is increased during the contraction of the ventricle; we have fully ascertained, that the lengthening of the tube does take place; and we have adduced most undeniable evidence that the diameter of the canal is increased.

In the paper which the writer had the honour of submitting to the medical public in the *Repository* of March, it was stated, on the assumption of the longitudinal movement, that there must be an increase of capacity. He leaves it to be judged, whether he has not shewn from experiments, now adduced, that this longitudinal movement does take place; and whether it is not strictly consistent with philosophical deduction to shew, from geometrical calculations, that certain results must ensue from that movement: and he answers Dr. Johnson's question, where is the applicability of calculations from Euclid, in the words of Lord Bacon:—"Verus experientiæ ordo, primo lumen accendit, deinde per lumen iter demonstrat, incipiendo ab experientia ordinata et digesta, et minime præpostera aut erratica, atque ex ea educendo axiomata, atque ex axiomatibus constitutis rursus experimenta nova, quum nec verbum divinum in rerum massam absque ordine operatum sit."

But lest the numerous facts collected from the most authentic sources should not be sufficient to overthrow that theory of the circulation which denies that the arteries are active agents in the circulation*, we will next notice some of those numerous phenomena which arise from the action of arteries; either producing motion of the blood where the action of the heart cannot be supposed to reach, as in the vena portæ and placenta; or occasioning irregularities in the distribution of the blood, such as the determination of the blood to the cheeks during the act of blushing, or the immediate production of inflammation by the application of stimuli, as seen by Dr. Thomson in the web of the frog's foot†, and by Verschuir and others in numberless instances in the arteries of warm-blooded animals‡.

But the writer has lately been engaged in some experiments to ascertain the state of the vessels of an inflamed part, and every day facts have occurred to him, in which the smaller vessels produced motion in the blood quite independant of the action of the heart.

In experiments in which his friends, Mr. Archer and Mr. Hawkins, assisted, it was found, that by the application of ammonia to the web of a frog's foot, the blood, in all the instances, moved very slowly; in some, the motion was not perceptible; and, in two or three instances, the blood was found to take a retrograde current towards the heart in some of the large vessels.

In Fig. 1, the web in its natural state is represented with a large sized vessel formed by several smaller ones.

Fig. 2 represents a part of the web with the same vessels as they appeared in the microscope; the blood was flowing for some time with great celerity from the branches towards the trunk; no oscillation nor impulse could be detected; the stream was uninterrupted from right to left.

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* That Dr. Johnson does deny both the larger and smaller arteries afford any assistance to the heart, may be learnt from his observations on the first experiment in his reply to Dr. Parry.

† Thomson *on Inflammation.*

‡ Verschuir *de Arteriarum et Venarum Rei Irritabili.*

The vessel was transfixed, as is shewn in Fig. 3, by a needle, which acted as a ligature, and prevented the flow of blood through the vessel. The blood took immediately an opposite direction in all those vessels which united to form the large transfixed vessel, and flowed into vessels in the middle toe with just as much rapidity as it had before flowed in an opposite direction. Mr. Ralph Sherwood assisted in this experiment, observed the appearances, and took the annexed sketches of the vessels*.

This experiment has been repeated several times, and always with nearly similar results; sometimes the blood moved more slowly after the puncture; and frequently the blood did not take a retrograde direction in all the vessels, but only in two or three; but the greater part of the blood was always circulated in a directly opposite current; while in some, by means of collateral branches, it moved in the accustomed direction.

Here then we have the vessels circulating the blood with great rapidity, in a current directly opposite to that in which it would be propelled by the action of the heart.

The same result is related by Georgius Ernestus Remus, in an inaugural dissertation published at Gottingen: "Ligavit in ranæ mesenterio, Haller optimus preceptor, sanguis utrinque circa ligaturam non adcumulatur; fugit ille supra ligaturam versus cor, iste versus intestina et vitat enatum ex vinculo obstaculum; inanitur tunc perfecte obstructa arteria," &c.

These facts are quite inconsistent with the supposition, that the arteries do not possess a power by which they assist the heart: and we have here a proof of the impropriety of the too strict application of the laws of hydraulics; improper, says the renowned Blumenbach, because it is absurd to refer the motion of the blood through living canals to the mere mechanical laws of water moving in an hydraulic machine.

It next comes to be considered, whether Dr. Johnson's assertion, that during auricular contraction and ventricular dilatation the blood is quiescent, is supported by any facts or other authority.

It was attempted to be shewn in our last communication, that this opinion was an assumption devoid of all proof. But Dr. Johnson, referring himself to Bichât, says, that that accurate physiologist maintained alternate quiescence and motion in the mass of blood. It appears, however, that he certainly labours under some misconception regarding the opinion of Bichât; for it appears to be impossible to read that author's work without finding the most direct contradiction of any such alternate rest and motion; for he denies that the action of the heart has any effect on the blood in the capillaries. "Le sang, une fois arrivé dans le système capillaire, est manifestement hors de l'influence du cœur, et ne circule plus que sous celle des forces toniques ou de la contractilité insensible de la partie*." Again, "D'apres tout ce que nous avons dit jusqu'ici, il est évident que le sang arrivé dans le système capillaire, ne s'y meut que par l'influence tonique des solides: or comme la moindre cause altère, change leur propriétés, il y est sujet à une infinité de mouvemens irréguliers. La moindre irritation le fait reculer, avancer, dévier à droite, à gauche, &c. Dans l'état ordinaire, il se meut bien en général d'une manière uniforme des artères vers les veines; mais à chaque instant il peut trouver des causes d'oscillations irrégulières†."

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* As Mr. Hastings grants us permission to give the engravings or not of these drawings as our judgment leads, we have omitted them; because we conceive that the testimony of Mr. H. and his friends will scarcely be doubted. But we cannot refrain from complimenting Mr. Sherwood for the elegance and delicacy of his delineations, nor omit the opportunity of remarking on the extreme utility of this elegant art to every lover and student of anatomy.—EDITORS.

Majendie, in his late publication, thus speaks of the opinion of the alternate motion and rest: "Cette opinion vient d'être soutenue tout récemment par un medecin anglais, M. le Dr. Johnson; il a même fait construire une machine qui, selon lui, rend la chose evidente; mais il suffit d'ouvrir une artère sur un animal vivant, pour voir que le sang sortira d'une manière continuée, sacadée, si l'artère est grosse, et uniforme si l'artère est petite. Or, l'action du cœur etant intermittente, elle ne peut produire un écoulement continu. Il est donc impossible que les artères n'agissent pas sur le sang‡."

Almost every day, for a month, the writer had occasion to observe the circulation; and, in company with several friends, has subjected the web of the frog's foot to microscopical observation. In healthy circulation, nothing like impulse or oscillation could be detected; the blood passed through the vessels in an uninterrupted stream; and in no instance, except from pressure on the animal, or some such cause, could the least irregularity be seen.

Dr. Johnson next alleges, that different authors have given very opposite accounts of the motion of the blood when the vessels have been viewed through a microscope; and that *they* are all unanimous in saying the blood is not alternately in motion and at rest, which is what Dr. Johnson contends for. A reference to these authors will shew the accuracy of his inferences. But how he could have read and referred to Dr. Thomson's experiments on the blood vessels, as supporting his assertion, is inconceivable; for every experiment and every observation of that author decidedly contradict the opinion, that the blood is alternately quiescent and in motion. He says, "The circulation of the blood, as seen in these three orders of vessels, the arteries, intervening capillary vessels, and veins, in the web of the foot of the frog, placed as has already been described, goes on in an uninterrupted stream. We perceive the globular structure of the blood, it is true, in the capillaries and in the venous branches; but we no where perceive in these three orders of vessels, during undisturbed circulation, any thing like impulse or oscillation*."

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* Bichât *Anat. Gen.* tom. ii. p. 509. † Ibid, p. 513.

‡ Majendie's *Précis Element. de Physiolo.* p. 321.

Now the cause of Dr. Thomson's not seeing the globules in the large vessels was on account of *the velocity of the motion of the blood.*

From the facts that have been stated, we may fairly draw the following conclusions:

1st. In the larger arteries, dilatation takes place on the contraction of the ventricle; on the relaxation of the latter, the former contract; and thus keep the blood in motion.

2dly. In the smaller blood vessels, the blood moves, in healthy circulation, in a constant uninterrupted stream.

3dly. The arteries are endowed with a contractile power, by which they can, in certain circumstances, circulate the blood independent of the action of the heart.

We might now go into an investigation of the truth of the hypothesis by which Dr. Johnson accounts for the motion of the blood in the venous system; but we will leave the consideration of the circulation of the blood in the venous system for the present, hoping to take it up at some future period.

In the part of the subject we have imperfectly considered, it has been our endeavour to give a clear exposition of facts; and we have now only to request a fair and candid consideration of our statement: the question rests on its own intrinsic merit, and there we leave it without farther comment.

⁂ Since this paper was forwarded, the writer has had occasion to remark the state of the arteries in eighteen instances. Of these, notes were taken at the time, and the following is a short exposition of them:—

In three cases, the artery, when exposed, was to the eye quite quiescent; but the pulse was evident to the finger, without making such pressure as to reduce the diameter of the vessel.

In four cases, a motion in the artery was evident to the eye; but not in such a degree as to enable us to determine whether the motion was longitudinal or alternate lateral dilatation and contraction.

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* Thomson on *Inflammation*, p. 77.

In eleven instances, the pulse was very evident to the eye when the vessel. was first exposed; at each contraction of the ventricle, it was palpably extended longitudinally, and dilated laterally: these motions generally became more obscure some time after exposure; in consequence of the denuded portion becoming permanently contracted to such a degree that the diameter was lessened one-third.

That we might not be deceived as to the lateral dilatation, we had recourse to Spallanzani's test, and passed a thread around the thoracic and abdominal aorta of a dog, so that it might embrace the artery without compressing it: the ligature was tight during the systole of the ventricle, and lax during the diastole.

These experiments were made on the femoral arteries and aortæ of dogs, cats, and rabbits.

Other results were met with still more decisive in demonstrating the active power of the arteries; which result, the writer intends, at a future opportunity, to make fully known.

V.

A Case of Aneurism, from a Puncture of an Artery in the Operation of Bleeding. By JOHN DUNN, of Pickering, Yorkshire, Mem. of the Roy. Col. of Surgeons in London.

GEORGE MEDD, aged 43, a farmer in Pickering Marishes, applied to me on the first of May 1813, with all the appearance of a purulent consumption. He had been ill for about six months; and now had a severe cough, quick pulse, profuse night sweats, copious expectoration of purulent matter, difficulty of breathing, with pain and constriction across the breast. A few ounces of blood were ordered to be taken from the arm, which my pupil performed on the vena media basilica. He unfortunately punctured an artery. A very rapid current of blood immediatly followed, escaping *per saltem*, of a lively red colour, and which very soon filled the basin. He called me into the room, and I applied to the part a compress which stopped the hæmorrhage. The artery which must have been a branch from a high division of the brachial artery, or the humeral trunk itself, was very superficial; and seemed from its strong pulsations to be on the outside of the fascia; an instance of which I have met with in dissecting. He never fainted after the bleeding; but rode slowly home. The blood, which was chiefly arterial, although mixed with some venous, exhibited a cupped appearance, and a peculiar light coloured greasy size. The bleeding seemed to have materially relieved his chest; but his night sweats continued as bad as ever. His arm in a few days began to be rather stiff, painful, and contracted. In about a month a smooth little tumor formed, becoming by degrees red, inflamed and throbbing. With regard to the state of his lungs at this period, he appeared to have advanced only to a certain point of recovery, and there to remain. As his arm now gave him much trouble, and I found he lived too far from me to obtain my wishes by a well-regulated pressure, I ordered him to Pickering. A loose tourniquet was applied to the arm; I then laid the tumour open as carefully as I could. A jet of blood spouted out; but instead of finding the artery which I had taken much pains to discover, I could see nothing but a mass of coagulated blood, which had insinuated itself in all directions between the fascia and muscles. I enlarged the wound, first screwing the tourniquet tighter to prevent the blood impeding my views; but I then relaxed it again to discover the orifice of the bleeding vessels; still I could not perceive it; for the moment the tourniquet was relaxed, the cavity was filled; so that I found it utterly impossible to get at the vessel, except by a fresh incision in the middle of the humerus. This I performed on the inside of the biceps muscle, below the anastomosing branches. The artery was tied without dividing it across; the tourniquet was relaxed, when a sudden flow of blood immediately followed, which however I concluded came from the veins. Each wound was strapped with adhesive plaster, a flannel roller applied, and my patient put to bed with the limb in a relaxed position. It is extraordinary that, although he was much reduced, and had lost a great deal of blood during the first part of the operation, yet he never fainted away.

The temperature of the arm was never reduced by the interruption of the circulation. On the third night he was rather delirious. The next morning I perceived an increased heat and beating about the arteria profunda magna humeri; the radial artery also faintly pulsated. In two or three days more I loosed the roller, when the wound at the bend of the arm, as well as on the upper arm, was almost completely united. This kindly union I attributed to opening the aneurismal sac, and removing the coagulated blood. The ligature did not come away for several days; and then the ring of it was entire, which shews it must have cut its way through the artery. Whether this mode of tying the ligature is not as effectual a security as complete division at the first, I will not pretend to determine.

My patient soon recovered not only his arm, but from the disorder of his lungs; and he was quite restored, with the aid of bark, acids, and a generous diet, to perfect health.

A few months back he had a slight pleuritic affection from a cold; but it subsided very easily, without any expectoration.

Were his phthisical symptoms cured by the new action excited by the operation, or from the loss of blood, or both together? The case may tend to shew, that, when labouring under pulmonic affections patients can endure severe operations, even with advantage to a constitutional complaint.

VI.

A General View of the Diseases usually occurring in Boys during the Period between Infancy and Puberty in Christ's Hospital, exhibited in a Synoptical Table, and accompanied with practical Observations. By HENRY FIELD, Member of the Society of Apothecaries, London, and Apothecary to Christ's Hospital.

(Continued from Vol. VIII. p. 82.)

TABLE OF DISEASES.	1817 June	1817. July.	1817. Aug.
1 Cynanche tonsillaris	2	2	2
2 Scarlatina anginosa	5	2	2
3 Febris Synochus	3	2	1
4 Tussis Catarrhalis	2	......	......
5 Dyspnœa	......	1	......
6 Peritonitis	1	......	......
7 Pleurodyne	3	1	......
8 Nausea, Gastrodynia vel Diarrhœa	9	12	2
9 Vertigo	......	1	......
10 Variola post Vaccinationem	2	1	......
11 Varicella	......	1	1
12 Icterus	......	1	......
13 Obstipitas Catarrhalis	......	1	......
14 Erythema nodosum	......	1	......
15 Urticaria	2	......	......
16 Prurigo mitis	......	......	2
17 Eruptio Herpetica	2	2	......
18 Oris interne exulceratio	......	1	......
19 Parotis benigna	......	......	1
Totals	31	29	11

THE summer quarter has been attended with much rain, though by no means so cold as from the wetness of the season might have been expected. The month of June produced eight or ten of the hottest days in succession, which have been known in this country for many years. From Wednesday the 18th to Thursday the 26th, the thermometer attained between three and four P. M., from 76° to 86°. On five or six of those days it was upwards of 80° in the open air at Christ's Hospital, suspended from a window looking due east.

The diseases of this period, if we except complaints of the primæ viæ, have been neither numerous nor important, and admit of no particular observations. The paucity of cases in the month of August, must in some measure be attributed to to the annual vacation, and the consequent absence of many of the boys.

VII.

A Case of Puerperal Convulsions subsequent to Parturition. By William Gaitskell, of Rotherhithe, Member of the Royal College of Surgeons, and of the Society of Apothecaries in London.

Mrs. G., of slender make, active disposition, and temperate habits, aged twenty-nine, was delivered, after nine hours regular labour, without the aid of manual assistance. In twenty minutes the placenta was expelled by the natural uterine contractions, accompanied with the usual discharge. For two hours after this, she remained tranquil and undisturbed; when the nurse, with great care and attention, removed her to the bed. At this time she was cheerful and apparently free from complaint. Being inclined to sleep, she remained composed about an hour; she then suddenly awoke, shrieked aloud, and instantly became convulsed. Her lips were blue, the features were distorted, and every muscle appeared successively affected; and she was completely insensible. This awful visitation attacked her just three hours after parturition. At this juncture I was sent for; and although only forty minutes elapsed before my arrival, three fits were reported to have occurred in the interval. Being surprised at the unusual circumstance of this case, being the only one in more than 4000 labours I have attended, I was particularly attentive to the symptoms. They were characterised by strong encephalic irritation; the eyes were rolling in their orbits, the muscles of the face and extremities strongly convulsed, with foaming of the mouth, and grinding of the teeth; the pulse 140, hard, and contracted; the skin hot; the cheeks flushed; and the lips of a purplish red. The abdomen was not unusually distended; but on pressure the symptoms were aggravated.

Under these appearances, so different from what I expected, having looked for internal hæmorrhage or convulsions from inanition, rather than from high arterial action, I immediately abstracted sixteen ounces of blood from the arm; upon which the symptoms abated. But this favourable change was of short duration, for another severe paroxysm followed; which, forcing the compress from the arm, caused a larger flow of blood than the first. In a short time the pulse became soft and less frequent; the skin cooler; the muscles more tranquillized; and composed sleep ensued. The next morning she was visited by Dr. Blundell, who gave his decided approbation of the practice which had been adopted, and recommended a repetition of venesection, unless the pulse should very much falter; at the same time a saline purgative was prescribed, which was with difficulty introduced into the stomach, but operated well on the bowels. As the pulse was quick and hard, the skin warm, and the brain much oppressed, with great abdominal tenderness, I bled the patient again, which afforded the most effectual relief. From this time the case improved. The skin became universally moist; the bowels discharged copious black and offensive stools; the bladder acted voluntarily; the lochia flowed freely; and reason began to dawn.

Toast and water, thin barley-water, and tea, were the only diet allowed; with a cool temperature, and abstraction from light and noise. Under this treatment, the mind was gradually restored, the breasts became distended with milk, and in six days convalescence was established. Mrs. G., finally, perfectly recovered, and was able to nurse her child.

AUTHENTICATED CASES, OBSERVATIONS, AND DISSECTIONS.

LV.—*Case of Cough, with Watery Expectoration.*

In May last, Miss B. a girl about eleven years old, with light hair, and delicate complexion, laboured under a most harassing cough, and a copious expectoration of a thin watery fluid. The fits of coughing were particularly troublesome at night, when they were said to last sometimes five minutes; so violent indeed that she grew "black in the face." Various remedies had been tried, such as opium, hyoscyamus, and the like, without relief. The bowels were said to be torpid, the evacuations being of a dark colour; but, as senna-tea was had recourse to whenever the bowels were sluggish, stools were obtained pretty regularly. There was an evening accession of fever daily. She was ordered to take a pill of the pil. hydrarg. with antimonial powder, followed by a draught of salts, senna, and extract. taraxaci. She took, after the operation of these medicines, a draught two or three times a day, each containing about half a drachm of sulphate of magnesia, with a scruple of extract. taraxaci, and a drachm of decoction of aloes. The stools continued dark for several days. This draught was next exchanged for one composed of infusion of gentian with carbonate of soda and decoction of aloes. Under this treatment, effusion of the watery fluid was checked, and with it the cough; and she rapidly recovered.

PART II.

ANALYTICAL REVIEW.

I.

Observations on the Deranged Manifestations of the Mind, or Insanity. By J. G. SPURZHEIM, M.D. Licentiate of the College of Physicians in London, Physician to the Austrian Embassy, Author of the "Physiognomical System of Drs. Gall and Spurzheim," &c. with Four Copper Plates. London. Royal 8vo. pp. 312. Baldwin, Cradock, and Joy, 1817.

(Continued from p. 240.*)*

III.—"*Nature of the Causes of Insanity.*" IT appears then, that Dr. Spurzheim always looks for the proximate cause of insanity in the organization of the brain. He contends, that appearances of insanity are merely symptoms of the deranged functions of the organs of the mind: hence, when the organ of self-esteem or benevolence or combativeness, &c. is deranged, the symptoms will be different from those proceeding from the disorders of other organs; therefore there are as many sorts of symptoms as there are primitive faculties of the mind, as well as of their combinations. And thus he explains why melancholia and mania are often the same disease, and interchange; and why the same treatment may be successful in both cases, and why in others it may differ, and yet arrive at the same end.

"The causes of insanity," says Dr. Spurzheim, "may be idiopathic, that is, confined to the head; or sympathic, viz. residing in other parts and influencing the brain."

Idiopathic causes either exist from birth, or originate from subsequent events; the latter are mechanical, proceeding from accidents; or dynamical, proceeding from the deranged functions of the vital powers. Connate insanity is always idiotism, complete or partial. From birth the cerebral organization may be too defective and unfit to perform its functions: a brain too small is always accompanied with imbecility. To illustrate this, a plate is given, containing six figures of different modifications of heads, all taken from nature; three of which represent the heads of three living idiots. Dr. S. observes, that of the greatest number of idiots from birth, the heads, particularly the foreheads, are too small: a fact of which we have certainly seen many examples.

This leads our author to some remarks on the form of the skulls of Cretins and Albinos, which singularly favour the above inferences. But the skulls of different Cretins differ in shape, as well as those of idiots. Hence there is no form of skull peculiar to Cretinism, any more than there is to idiotism.

"In Cretins, and in idiots in general, the manifestions of the mind are more distinct, the inclinations more subordinate to the will, the ideas clearer, and the natural language more significant, in the same proportion as the organization of the brain is more perfect."—p. 122.

Many observations follow to exemplify the modifications of idiotcy. In partial idiots the five senses are often perfect; while others manifest the intellectual powers in various degrees only; but are destitute of consciousness and perfect will. Hence they are classed among the insane.

"*Idiopathic occasional Idiotism.*"—That state of the cerebral organs and functions is here noticed, which every experienced observer must have met with in children; and which is often manifested by a display of precocious intelligence, that rarely continues to be exhibited when they arrive about puberty; and which peculiarity disposes them to affections of the head, and decline of intellectual powers before that period is completed.

"Sometimes," says Dr. Spurzheim, "children are born in perfect health; they improve in body and mind, acquire notions of the external objects, reason on them, and manifest feelings in a regular manner; but accidentally lose the manifestation of the mind, and become complete or incomplete idiots. Children naturally disposed to such a disease are of a great nervous sensibility, and rickety subjects, of an irritable temperament. Their cerebral parts often increase too rapidly, and there is not sufficient time for the organs to grow solid. The activity of the mind is sometimes stronger than the brain can bear; and it is a common observation, that too early genius is often too soon exhausted. Moreover, the brain of such children easily suffers by different accidents, such as blows on the head, spirituous aliments, insolations, especially during the time of dentition. The blood is carried in greater quantity to the head, and inflammation of the brain and its membranes is easily produced. The children often die of the disease, or its effects, of which I have spoken under the name of Hydrocephalus acutus. Sometimes the children overcome the disease, and escape with life; but the energy of their talents is lost, and the hopes of their parents imbittered." —p. 133.

Where this precocious activity of the intellects is manifested in children, the consequences might, by proper precaution, be probably guarded against. But, unfortunately, infants evincing extraordinary genius, instead of being managed with caution, to gratify a foolish vanity, generally become sacrifices, like tender plants, to too much forcing.

Notwithstanding several well-authenticated cases, the possibility of children becoming insane, is still by many denied. Dr. Spurzheim contends, that "As insanity consists in the suppression of clear consciousness and will, there cannot be any doubt that children can become insane." Surely this definition implies idiotcy rather than insanity. We entertain no doubt of the existence of real insanity in children, because we have known adults, who, during and from infancy, were subject to decided aberrations of intellect. Of those having "a suppression of clear consciousness and will," we have now under our direction three children of the ages of a year and a half, four, and eight years, who have never manifested *clear* consciousness or will; but yet there is not a total suppression of those faculties. The configuration of the skulls of all these children is peculiar, and smaller than the common dimensions. If they live, they will probably fall into fatuity.

"*Fatuity*" is often the result of chronic melancholia, but more often of chronic mania induced by a fall or a blow on the head, or from sudden fear. It frequently succeeds epilepsy, catalepsy, delirium with fever, &c. particularly in persons originally endowed with slender intellects. Febrile diseases in general weaken memory, and other intellectual operations; but such patients commonly recover the manifestations with their strength. But sometimes fatuity lasts for life; and in these cases it arises from some organic changes which unfit the brain for the manifestations of the mind.

> "*Idiopathic mechanical causes of Insanity.*—The manifestations of the mind may be deranged by various mechanical causes; not only from without, such as violent blows, a fall, fracture or depression of the skull, but also from within, by exostoses, for instance, or hydatis, ossified blood-vessels, various tumours, a collection of pus, of water, or a congestion of blood. As by similar causes the manifestations of the mind are often suppressed, so they may be excited, or alienated. I have mentioned cases where violent blows have produced idiotism: on the other hand, there are also examples where, by the same causes, in stupid persons, the manifestations of the mind acquired more energy."—p. 188.

Instances are quoted of the manifestations being much changed, from the effect of blows on the head.

Innumerable facts testify, that the intellectual faculties undergo very evident changes from accidents to the head, and that the mechanical lesions they occasion, are frequent causes of insanity or fatuity. In all such cases however coming under our observation, we cannot say we have been so fortunate as to see any one instance where the understanding has been improved by the applications of blows to the head; a circumstance, very discouraging for those who have to instruct the naturally stupid, and who might be disposed to try the experiment. On the contrary, we believe that the effect is always a deterioration of intellect. In numerous cases, various morbid appearances, Dr. Spurzheim says, observed in the heads of persons who have died insane, have been considered as mechanical causes of insanity; while such organic alterations ought to be considered rather as the effect of the diseased state of the brain which produced insanity and the organic changes. This opinion coincides with that of several authors.

Dr. Spurzheim is anxious also to correct the error, that a thick skull is the cause of insanity; whereas, in his opinion, it is an effect of it. He supposes that from chronic diseases of the brain, and from chronic insanity, this organ diminishes in volume; and that the internal table of the skull follows the external surface of the brain, while the external table of the skull remains in its natural position; and he asserts, that this disunion of the two tables of the skull is often observable at the upper part of the orbits: a statement which we are not sufficiently versed in craniology to confirm or contradict.

"*Is the Shape of the Head a Cause of Insanity?*"—Dr. Spurzheim notices the opinions of other authors upon this subject; and corrects a misconception of Dr. Pinel, who states, that Dr. Gall maintained the possibility of knowing whether any one is predisposed to insanity or not, by the external shape of the head. Such an inference is here denied. We, however, perfectly coincide in the opinion, that a too diminutive brain *is* unfit for the full exercise of the intellectual faculty.

> "It is a fact," says our author, "that by far the greatest number of those who are insane by pride have the organ of self-esteem large in proportion to the other organs of the mind. It does not follow, however, that every one who has this organ large must become insane by pride, nor that every one who has this organ small will be absolutely exempt from such an hallucination; for every *small* organ may be excited by diseased affection, and shew too great activity and deranged manifestations. The influence of the size seems to be obvious, since the greatest number of persons, insane with peculiar hallucinations, have the respective organs larger." —p. 144.

He then pursues a chain of reasoning to account for various hallucinations; pointing out the peculiar and corresponding forms in the head, as demonstrative of the propensity to these specific aberrations. But the greatest difficulty in understanding the diseases of the brain, he says, results from the infinite modifications to which organization is liable. We have no facts to contravene this doctrine. But we will forbear from saying more, than that we wish for and expect proofs, ere we yield our conviction to it.

"*Idiopathic Dynamic Causes of Insanity.*"—These comprehend all causes which immediately influence the functions of the brain. Our author thinks, that "from the preceding considerations it results, that a peculiar developement of the individual parts of the brain predisposes to insanity: and hence takes occasion to remark on the relation of extraordinary intellectual endowments with insanity."

The relation of genius to insanity, is a trite remark; but it does not the less, perhaps, puzzle metaphysicians. Dr. Spurzheim accounts for it by supposing, that a too great energy of one power disturbs the balance of the healthy functions, and that the power is sometimes so energetic, as to act independently of the will. The admirers of Drs. Gall and Spurzheim will pity us when we declare, that we prefer the reasoning of the poet to that of these philosophers; and incline to the opinion of Horace, so beautifully imitated by Pope, who ascribes intellectual perfection to

——— That DIRECTING POW'R,
Who forms the GENIUS in the natal hour:
That GOD of NATURE, who, within us still,
Inclines our action, nor constrains our will!

Thence our author proceeds to the examination of the various other causes disposing to insanity; to enumerate which, would lead too much into detail. However, we will briefly notice, that he regards as causes, an inflammatory state of the brain, increased arterial activity, or diminished circulation in the veins; and to these disorders he justly attaches great effect. Upon this subject he refers to Dr. Parry's Work on the Pulse. Again, various morbific causes may affect the brain alone, as well as other parts, such as rheumatismus vagus, repelled cutaneous affections, &c.; and these morbific causes often act upon the brain by metastasis; and he thinks we may suspect some such cause, whenever insanity alternates, or is interchanged with morbid affections of other parts.

The second sort of dynamic causes of insanity are those which concern the use of the cerebral functions, or the exercise of the manifestations of the mind. The most active powers of the mind produce insanity most easily; hence the Doctor ranks *amativeness* (desire, we presume, in plain English) as the first; because the most powerful feeling. Religion is, he conceives, another fertile cause; and he adds some very judicious reflections upon it, as predisposing to insanity. Disappointed ambition, reverse of fortune, and various other affections of the feelings, are also assigned.

A high state of civilization, which induces too much luxury and refinement, as well as excessive study, are also mentioned as common causes of insanity.

Our author concludes this part with remarking, that scientific professions which naturally excite the feelings, such as those of priests, poets, &c. more dispose to insanity than the pursuits of geometricians, mathematicians, and natural philosophers.

"*Sympathic Causes of Insanity.*"—"Every cause which immediately affects the brain, and deranges the manifestations of the mind, is sympathic."

The diseased state of any of the viscera of the abdomen, or indigestible aliments, narcotics, poisons, or worms, often affect the brain by sympathy; intemperance of any kind, and especially of spirituous liquors, is a frequent cause, and is particularly dangerous to persons who have a predisposition to insanity.

> "It may be in general observed that one deranged function of automatic life may derange one or the other, or all, the functions of animal life; and, *vice versâ,* one disordered animal function may derange one or the other, or all, the functions of automatic life. Moreover, each diseased part of automatic life may affect any other automatic function; and in the same manner, in animal life, one deranged function of the brain may disturb any other. The individual conditions of the parts, however, and their modifications of irritability, are infinite, and can only be observed in given cases without any other knowledge, but that such is the case."—p. 160.

These considerations, Dr. Spurzheim adds, explain why insanity is more frequent between twenty and forty years of age: the feelings and intellectual powers are then most active; evil habits are formed; and an infinite number of causes at this period operate to produce more disorders of the body and brain, than later in life; but the brain in adults is strong enough to suffer morbid disorders, which in children terminate in death.

We are rather surprised that Dr. Spurzheim, in the enumeration of sympathizing parts, should have forgotten to particularize the viscera of the thorax. The reciprocal action between the disorders of the lungs and the brain are not infrequent; neither have they escaped the observation of pathological writers. The pathology of the heart is too little advanced yet to judge how far its diseases affect by sympathy the functions of other organs. In fact, we impute sympathy, from visceral derangement, to be a much more common cause of insanity than Dr. Spurzheim appears here to do. Indeed, in his Physiognomical System, he has enlarged more on affections of the brain from sympathy, than he does in this Essay, although it is exclusively upon mental derangement.

Sexes.—Women, generally, are more subject to insanity than men. This is natural to imagine. The many more physical causes; such as menstruation, pregnancy, parturition, lactation, &c. to which the tender sex is exposed, will sufficiently account for it. "By a severe necessity attached to the duty that Nature has assigned her, says Cabanis, woman is subjected to many accidents and inconveniences; her life is almost always an alternate succession of good offices and of suffering; and too often the suffering predominates." Whether, if exempt as much as males from such physical causes, females would, as Aretæus, Cœlius Aurelianus, and other antient authors contend, be less liable to insanity, is perhaps a question impossible to solve; yet these are data whence we might justly infer, that moral causes have a greater effect than physical causes in determining a majority of insane females. The physical causes of insanity must be nearly the same in all civilized countries in regard to females; but the moral causes may differ very widely; and will be always regulated by the state of society. Thus in France, where public morals have long been more relaxed, and where all the vices which affect the passions most predominate, the proportion of insane females to males is greatest. In Great Britain, within the last half century, the errors of female education have become more universal: hence the morals of even the inferior classes are more corrupt; and the consequence is a most sudden and alarming revolution in the female mind: and hence this country ranks next to France in the number of insane women. In Prussia and Austria the case appears to be reversed: there we find most insane men; while in Pensylvania, two men are enumerated as insane, to one woman. We do not pretend to measure the state of public morals by the guage of the number of insane in these several countries. We say what we know to be true of France and of England; but must leave to others the solution of the enigma, why, in Prussia, Austria, and America, the proportion of insane women to men should be the reverse of what it is in the two former nations.

"*Insanity is frequent in England.*" — We have before alluded to Dr. Spurzheim's assertion, that insanity in Great Britain is endemical. Here he again falls in with the common belief, that it is more frequent in Great Britain and Ireland, in proportion with the population, than in any other country of Europe; and that in England it is most frequent. We shall not blush, if we exhibit a little of John Bull's pertinacity, and rebut this charge by stating our opinion (certainly an opinion only), that insanity is not more frequent in Great Britain than in other countries where civilization is equally advanced; nay, still farther, we believe that insanity is less frequent in England than in Ireland or Scotland.

If we may trust to report, and the returns of various public and private establishments for the reception of the insane, then it is evident that insanity is exceedingly prevalent in foreign countries, as well as in Ireland, and in Scotland. Of the number of insane in the latter, there is more precise information; and, comparing the returns under a recent order of the House of Commons*, there is reason to suppose, that it contains a greater number of insane persons, according to the extent of its population, than England.

This fact is no less alarming in a political than in a moral point of view. It argues a great change in the physical and moral constitution and habits of a people, hitherto justly considered as the most reflecting and industrious, and as sober as any in Europe. Is this lamentable change to be ascribed to the rapid introduction of manufactories, and commerce, and wealth into Scotland?

It would be irrelevant here to enter deeply into so interesting an inquiry as this question presents; and we may find other opportunities of investigating it. Suffice it, that Dr. Spurzheim points out many circumstances, both in the physical and moral life of our countrymen, that predisposes to this dreadful malady.

The following passage contains impressive truths. It is a cause however which must be ever operating wherever religious liberty is regarded, as in England, as a constitutional bulwark:

> "Religious feelings are extremely active in this country, and may act without any restraint. Every one who thinks himself enlightened enough, or perhaps inspired by supernatural influence, may preach to all who will listen to him. Whether he understands human nature, or is an artisan; whether he has studied the feelings of man, or has been employed in manual labour, that is no matter. He may consider the individuals of his congregation all alike, and speak to the mild, gloomy, and timid, as to the disobedient, hard-hearted, and stiff-necked. He may damn to hell and eternal pains all those who do not believe with him. I am convinced that a gloomy preacher who does not know the God of Christians, and the method of instruction of the great Apostle, who modified his speech according to those to whom he spoke, in order to save them all, easily deranges a tender mind by his picture of a jealous God, of a God of wrath and of vengeance, by a language which is perhaps necessary to guide his own feelings. Indeed, how often must an anxious mind be overpowered! Moreover, it is easily conceived that individuals, who are anxious for their eternal beatitude, and listen to so many different explanations, torment their brains in order to find truth. Now, if at the same time other feelings are excited, it must occur that reflection and will are lost."—p. 166.

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* 630 out of 889 parishes in Scotland have made returns: the number of lunatics returned was 3,486: but the total number is represented as 4,300, of whom 800 only are confined; 291 in fit places; 331 in improper ones; and about 500 inadequately, or kept by relations.

Moreover ambition, and that "selfishness, which is the soul of commerce," are also in England active agents. "In short, it seems to me," says this observant foreigner, "that in England all feelings, selfish and liberal, religious and moral, low and high, are extremely active."

"Thus the powerful activity of the mind seems to me a great cause why insanity is so frequent in England; and, indeed, it is a singular fact, that the greatest desire of man, his personal liberty, also has its bad effects.—"In despotic countries," says Dr. Rush, "where the public passions are torpid, and where life and property are secured only by the extinction of domestic affections, madness is a rare disease."—p. 167.

The authorities of the pedestrian traveller, Stewart, who spent some time in Turkey, of Dr. Scott who accompanied Lord Macartney to China, and of Mr. Roxes, a native of Mexico, are quoted to prove the rarity of insanity in those countries. Here our nationality and our natural affection for political and civil liberty interfere, and induce us to repel so foul a reproach, as this sentence implies, on that freedom which we conceive constitutes the chief happiness of man.

History, both sacred and profane, affords abundant testimony, that various species of insanity prevailed throughout Asia and those parts of Africa that were known and civilized in very early periods. The Sacred Scripture abounds with proofs of it. As early as the fifth century of the Christian era, there was a large house for the reception of lunatics at Jerusalem. In the twelfth century, Benjamin of Tudela found in Bagdad a spacious building, called "Dal Almeraphtan, or the House of Grace," for the reception of those who lost their senses in summer. There they were kept in chains till they were cured. What traveller has not heard of the mad-house at Constantinople, and of the horrible treatment the patients receive there? or of the "Muriston" at Fez, in Morocco, once so celebrated, when that city boasted a university and a school of medicine? If the walking Stewart, and others, did not hear of any of these establishments in their travels, it is probably because being reduced to a comparative state of barbarism, in all these countries such establishments are now confounded with prisons, or are insignificant or extinct; and not because there are not numerous insane persons requiring confinement. At all times we believe there was a tolerable share of despotism extant in these countries; at least none will be hardy enough to deny, that there is not now quite a sufficient degree of it to check the *bad* effects of too much personal liberty.

In truth, insanity is no where so common as wherever the Turkish dominion prevails. And when we advert to their indolence and sensuality, their abuse of opium, tobacco,

&c. we cannot wonder that the physical as well as moral and intellectual functions of the people should be greatly depraved, and frequently alienated. Of China, we know too little to rely on; of South America we have certainly the authority of Humboldt, that among the native Indians insanity is unknown; and this may fairly be imputed to their simple and uncontaminated manners. It is probable, that their task-masters are not quite so free from this scourge of civilization. It is also true, that insanity is scarcely known among the African slaves in the West India Islands.

Dr. Spurzheim admits four general forms of insanity—

> "viz. *idiotism,* which is partial or general; *fatuity,* also partial or general; *irresistibility,* if any power be so active that the will has no influence on its actions; and *alienation,* if the manifestations of the faculties are deranged in their quality, and the intellect is incapable of distinguishing the derangement. These four forms designate different states of insanity, while mania and melancholia are merely sorts of alienations."—p. 174.

Although thus reduced to four forms, and the fewer the better, yet we fear our author's arrangement is not founded on legitimate inductions; for it is certainly a little extraordinary, that he avoids adducing any sufficient reasons for the several divisions he has here adopted*.

"*Suicide.*"—"The morbid inclination to *suicide* is the same disease which is commonly called melancholy, only producing that singular effect." From examples he infers, that in many cases suicide is the effect of corporeal disease. Those who kill their relations and then themselves, or that kill others in order to be put to death, he considers as modifications of suicide. As the propensity to suicide is a symptom only of insanity, and as insanity is regarded by our author as the effect of organic derangement, it is of course natural to infer that suicide has a corporeal and not a mental origin.

Dr. Spurzheim believes that suicide is in some countries and districts endemical, in others epidemical. A variety of authors, both antient and modern, have attested the same. Nor do we see that it is at all improbable that certain physical and moral causes may exist in particular districts and societies, superinducing this species of madness. That this propensity is hereditary, we have had the clearest evidence in many families whom we have professionally attended. In one family, we knew it to have been developed in three successive generations:—in the second generation, three brothers and two sisters between the ages of thirty and seventy years immolated themselves; it is strongly indicated in the last surviving brother, and in the progeny of all of them.

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* It is surprising, and it excites our regret, that Dr. Esquirol, who has so distinguished himself by his luminous observations on mental derangement, should, in a paper very recently reported on by Dr. Pinel, to the Royal Academy of Sciences of France, have attempted a division of different sorts of hallucination of the senses. According to this new arrangement, the first sort is that which affects the true sensation of hearing; the second, of hearing and seeing; the third, of hearing, seeing, taste, and smell, united; the fourth and fifth, comprehends the aberrations of all the senses. The utility of this arrangement, in a practical point of view, we profess we cannot perceive.

The delineation of the morbid symptoms commonly observed in these unfortunate beings is exceedingly well drawn; but at too great length to quote. Ample proofs are stated of much constitutional derangement in all such cases. Excessive feeling suddenly and strongly excited, may indubitably produce immediate self-destruction, and perhaps without any apparent constitutional derangement; but, we should be inclined to pronounce that there was a disposition of organization in all these cases favourable to such hallucination.

Our author here forcibly adverts to the popular impression, in cases of suicide, homicide, &c., that it is a crime justly imputable on the perpetrator; but which a philosophic physician, he says, would judge in a quite different manner. This proposition involves a nice question of jurisprudence; but which however we cannot discuss.

The crime of suicide all Foreigners are fond of imputing as peculiar to the English; but upon comparing the Bills of Mortality of London and Paris, it will be found, that the French at least have no grounds for reproaching the English on this account.

" *Fits of Insanity.*"—Idiotism and fatuity excepted, insanity, says Dr. Spurzheim, is often intermittent, like many nervous complaints, and has exacerbations and ramifactions. As to the cause, he treats the antient opinion, that the moon has an influence, as entirely destitute of truth. But, he asks, if a too great determination of blood to the brain, and lesions of the brain from exostoses or violent depression of the skull, &c. be predisposing causes, how it comes that the same predisposing cause may continually exist, and only at certain periods the blood is carried in larger quantity to the brain, and various morbid symptoms take place? This query is difficult of solution; nor can we acknowledge that explanation which the author himself gives, is at all satisfactory.

Periodicity in the animal economy has led Drs. Gall and Spurzheim to some singular speculations in regard to its influence on the female constitution. The subject is curious, and is treated with much ingenuity.

> "Dr. Gall first made the observation, that at certain periods more women menstruate than at others, and that in a lunar month there are two such periods. This periodicity with respect to menstruation must be understood as follows. There are many females, who have their menses within eight days; they, independently of bodily size and temperament, form a class, and without a violent cause, such as strong affections, they belong always together, with this difference only, that several overcome that inconveniency in a greater or smaller number of days; but within eight days all individuals of that class menstruate. There is another class of females, who also, independently of bodily size or temperament, have their menses at another period with the same modification as those of the former. Both periods happen within a lunary month. It must, however, be observed, that the season and weather have an influence on the periods; in the spring and in hot weather they commonly anticipate, and their effect is greater. At other times they postpone, but always the whole class anticipate or postpone, which indicates, that the cause is general. In a small number of females, menstruation is sporadic. Extremely weak and delicate women feel the influence of both periods; for that reason some females are unwell every fortnight. Many women think that it is always the case at the same date of the month, but they are mistaken, and were not attentive enough."—p. 192.

He finishes his argument with some speculations also on the calculations of females as to the periods of conception and delivery. For his elucidation of the influence of periodicity on the nature of man, we must content ourselves with referring to the work itself.

On the "*Means of preventing Insanity,*" Dr. Spurzheim declines entering; conceiving that the best rule is—to avoid the causes of insanity.

" *Prognosis of Insanity.*"—The same terms, Dr. Spurzheim conceives, should be used in the prognosis of insanity as are applied generally to other diseases. It is curable or incurable; the curable is acute or chronic, and is cured with more or less difficulty. Diseases from dynamic causes should be considered curable; the term incurable should be applied only to an organic alteration, which cannot be restored to a healthy condition: such for instance, as a suppurated internal organ, ossification of blood-vessels, effusion of blood, or serous matter into the cavities of the brain, a tumour, &c.

> "We must," says our Author, "confess that hitherto medical art has acquired very little merit in the cure of insanity; nature alone does almost every thing. It is, however, interesting, and

even necessary, to know what nature can do, in order to understand and appreciate the merits of the art.

"The prognosis of insanity, like that of any other disease, depends on the predisposition of the patient, his bodily strength, the particulars of his constitution, sex, age, the nature of the disease and its cause; its duration, the organic change it has produced in the brain, and the degree of our knowledge."—p. 197.

Religious melancholy generally terminates in death; madness from inebriety is rarely cured, because permanent abstinence is seldom if ever in habitual drunkards attained. If the difficulty of prognosis is uncertain from sympathetic causes, it is unhappily quite certain, when the causes are idiopathic; no permanent recovery can then be pronounced.

Maniacal patients, it has been observed, recover in larger proportion than the melancholic. The reasons are various, yet some are obvious, mania for instance, is more alarming, therefore relief is soonest sought for, and the necessary applications made. Cases of melancholia gradually arise, go on for years, and are consigned to neglect and chance; the precursory symptoms being too often considered as the effects of a fanciful and wayward imagination. Dr. Spurzheim justly censures the friends and physicians of patients who permit the advances to melancholia to proceed, as if they did not originate from bodily causes. This neglect is certainly one of the most fruitful sources of insanity. It may be received as a maxim, that in the ratio with the duration of the symptoms, the facility or difficulty of cure may be prognosticated.

We hope and believe, for the credit of medicine, that the Doctor is clearly in error when he alleges, that nothing is ever done for the relief of the symptoms of melancholia, and that it is deemed incurable when under some of the circumstances he has described. We have never seen any form of melancholia, unless it were connected with some organic defect, in which we should consider the cure quite hopeless. But we agree with him, that the most violent attacks of mania generally recover in the gradual manner which he relates, and that such mode of recovery promises the strongest hope of permanency. He thinks, that if insanity (the acute form of mania we presume is here meant) degenerate into fatuity, or if emaciation be increasing, notwithstanding the patient eats voraciously, the case is hopeless; for "incurable changes have taken place in the substance of the brain, in its membranes, or blood-vessels." Remissions and intermissions are favourable, for they shew the cause is not so active, and that organic changes do not so easily take place. The prognosis is particularly favourable if the successive paroxysms are weaker. If there be no alteration of pulse, the cure is more difficult; because the cause is idiopathic. The prognosis is unfavourable if there be violent chronic head-ache, especially pain in the neck; or in cases where drastic remedies fail to produce effect, or if blisters neither vesicate nor inflame the cuticle.

The important question, how long insanity can last before it should be considered incurable? our author refers to the decision of other authorities; which leaves it precisely *in statu quo.*

According to most writers on insanity, patients with a propensity to suicide are seldom cured; but from this conclusion Dr. Spurzheim dissents; and we accord with him: for, from experience, we insist, that like other forms of melancholia it is curable; but where it has been gradually developed, and is not the result of any sudden and vehement emotion affecting the feelings, it is very apt to recur.

With no part of Dr. S.'s doctrine do we more cordially acquiesce, than that, if in insanity

> "We immediately employ the proper means, and continue the true treatemnt for a sufficient length of time, the number of the curable cases will greatly enlarge. In many cases the power of nature, without support, is insufficient; and in many others it is more difficult to repair the mischief induced by improper treatment of insanity, than it would have been to cure the original complaint; just as it often happens in other diseases.
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> "If re-convalescents return to their primitive tastes, pursuits, and habits, it is a good indication of their final and complete re-establishment."—p. 204. Equally true it is, that "Insanity, as well as other diseases, is liable to relapses."

Where the insane are placed under circumstances as favourable to life as the sane, we agree with the author, that, in chronic cases, they may attain great age. But it is contrary to reason and experience to conclude, that if mania or melancholia originate in disease of some important viscus, or even in derangement of any organic function, such condition can in a general way admit of longevity.

"*Treatment of Insanity.*" Reflecting that we are examining the work of a Professor who has been labouring to discover the organs of the mind; and that, according to his own account, he has in this succeeded beyond all his predecessors; and always allowing him a great degree of ingenuity, we were willing to give the most candid consideration to his observations on a subject still veiled in such mystery.

In fact, we expected a practical illustration of those theories which go to subvert all antient doctrines and to erect new ones in their place; that from the wonderful discoveries of Drs. Gall and Spurzheim of the organs whence emanate the manifestations of the mind, that such manifestations would be more under subjection and direction; and that when, by the perverseness or folly of man's nature, he neglected his organs, and suffered the manifestations to run uncontrolled, that when submitted to restraint and discipline, we should be able with little difficulty to bring them again into order. In short, that insanity was to be reduced to rule and calculation; and that these learned Professors were born to mark a new era in the healing art, and relieve the load of human woes.

Let then the extent of our mortification be judged, when we read the following confession: "I come now to those considerations in which the patients are most interested, *and where experience and our own conscience attest our ignorance!* We must, indeed, all agree, that the method of curing insanity is not at all satisfactory!"

Thus then at the very point when we expected the fruition of our hopes, we are led to understand, that the experience of the author is nothing! and that he is too honest to claim that knowledge to which he has no pretension! To what then do his "Observations" tend! Some might be supposed to inquire, *Quid dignum tanto feret hic promissor hiatu?* We will not reply—*Parturient montes*, &c. because our author has unquestionably many merits, not the least of which is, his adherence to the corporeal origin of insanity; and because he thereby has certainly contributed in a very great degree to the dispersing of the delusions which philosophers and physicians had entertained as to the causes of insanity. To attain this is no small triumph; for the correction of one error, paves the way for the admission of many truths.

But we will proceed to examine what is said under "*Moral Treatment*," which includes habitation, nourishment, coercion, and personal treatment.

Dr. Spurzheim reports many prevailing and gross improprieties as to scite, accommodation, confinement, association, and general treatment. He describes even worse mad-houses, and more horrid scenes than were detailed in the exaggerated Reports of the Committee of the House of Commons: but we hope, for the sake of our country, that the Doctor's accounts are derived from his foreign travels. In this respect, we must observe, that there is nothing said but what has been written by all the newspaper-writers of the day; which, however true and philanthropic, it would be supererogation to repeat.

"*Principal Requisites of a Mad-House.*" Here, also, we find little that is novel or worthy of notice. Nothing indeed that any person might not design who had had the inspection of the numerous plans for mad-houses which have appeared.

that no more contrivances have been invented to occupy and amuse those mentally deranged.

Our author re-urges that which has been judiciously observed by former writers, and especially by Dr. Hallaran. He points our very forcibly the necessity that such occupation be adapted to correspond as nearly as possible with the capacity of the patients, and that it be entirely opposite to the hallucination possessing the mind; and he expatiates on the particular benefit of employment when in a state of convalescence.

" *Inspection and Visitation.*" We must be indulged here in some remarks; for we apprehend there is more meant under this head than meets the eye. Perhaps if we possessed the somnambulistic faculty of *clair voyance*, which the disciples of Mesner sagaciously consider a sixth sense, we should be able to divine the precise object of some observations we here meet with. Our percipient faculties, however obtuse, are not blind to the prospect of such agreeable appointments as inspecting commissioners, &c. So let it be. We shall not examine very scrupulously into motives, but content ourselves with effects; and declare our sincere satisfaction, if any motives tend to elicit aught that will alleviate the condition of the afflicted.

Much is said respecting asylums for the insane. As this is a subject of interest to but few of our readers, we shall be succint in our observations.

It may be very confidently predicted, that there never will be an institution competent in all its departments for the reception and recovery of the insane; unless it be erected and maintained by the nation; and unless it be placed under such direction and management as to preclude the influence of all private considerations and local prejudices.

Dr. Spurzheim is perpetually in this section speaking as if the British, like all other governments, had cognizance of every charity in the kingdom. But Englishmen know and boast, that the most noble charities in the empire generally owe their rise and support to private benevolence.

We maintain, that there never will be an establishment for the insane, possessing all the requisites, and worthy of the nation, until a portion of its resources be appropriated to that purpose.

It is far from our intention to impugn the management of mad-houses by non-professional persons; on the contrary, we believe many of them are conducted with great care: but if under persons not medical they are well conducted, can any reason be alleged why they should not be equally well, if not better, managed by medical men? Surely there are many reasons for concluding, that where medical knowledge is combined with the other requisites, the person so qualified offers the best claims to confidence.

"But who ought to be the inspector?" "I think," says Dr. S., "any active, charitable, and conscientious man, *who knows the nature of insanity* and the wants of the patients." But where, we would ask Dr. S., are men to be found "who know the nature of insanity and the wants of the patients?" If, as he says in the same page, "insanity is a corporeal disease," how can "*any* active, charitable, and conscientious man" be fitted for an inspector? We are convinced that inspectors ought to be educated to the medical profession; that they should be men of solid judgment, and have salaries sufficient to make them independent of any other professional pursuit.

We now come to the last, and perhaps our readers may expect the most important, part of the work before us; viz. the "*Medical Treatment of Insanity.*" But we must check such expectation, by reminding them of the Doctor's confession in his exordium, that he is ignorant of the *methodus medendi.*

Those writers who have inclined to the opinion, that in the majority, if not in all cases, insanity does not arise from organic lesion of the brain or of other parts, but impute mental derangement chiefly to moral causes, naturally rely little on the aid of medicine for its cure. Dr. Pinel, from the success attending moral treatment in France, and that system of therapeutics which the French term, *médecine expectante,* which, in other words, is almost doing nothing at all, is disposed to this opinion. The good sense, indefatigable zeal, and great humanity, which that excellent physician has displayed in regard to the insane, has received the reward he so well merits, in the unbounded confidence his government has bestowed on him. He has had at his disposal ample means for the execution both of his moral and physical views in regard to the treatment of the insane. Placed in such happy circumstances, he has been able to achieve much; and when the results are compared with those of the English hospitals for the insane, it will be seen that he has reason for drawing inferences favourable to his own plan of treatment: and hence, perhaps, he is persuaded, provided that the moral means are commensurate, that the *médecine expectante* or natural means, will generally be adequate to the cure of insanity, without the aid of pharmaceutic art. But they, who with Dr. Pinel, draw such an inference, are very likely to err; because the medical system practised in our hospitals having been notoriously routine, and the moral means being as notoriously defective, the effect of medical treatment has never had a fair trial.

Truer philosophical views of the pathalogy of insanity begin to be developed; and we have no hesitation in prophesying, that a very different report of the number of the cured in this country will consequently soon appear, as the result of our improved knowledge and mode of treatment.

That accurate observer, Dr. Rush, intuitively remarked, that it was, perhaps, only because the diseases of the moral faculty have not been traced to a connection with physical causes, that so few attempts have been hitherto made to lessen or remove them by physical, (medical,) as well as rational and moral remedies. The justness of this remark begins at length to be felt, and acknowledged. Equally indisputable is Dr. Spurzheim's observation, that those who have treated insanity as a corporeal disease have discriminated too little; and that they have applied to the alleviation and suppression of symptoms rather than to the causes of them.

> "Insanity," says our author, "however, and its symptoms, present as much variety with respect to causes and circumstances as any other disease; and it cannot be treated by any general method, as by bleeding, vomiting, purging, blistering, bathing, the use of opium, caustics, digitalis, mercury, &c. There is not, and there cannot be, a specific remedy against insanity. There are specifics against determinate diseases, under whatever form they appear, or whatever part they affect; but the morbid symptoms of the lungs have no specific remedy, because the functions of the lungs may be deranged by various causes, as by inflammation of the lungs, bad digestion, hysteric affection, and according to these causes the treatment must be modified. The same must be done in the brain.
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> "There is no doubt that nature often cures insanity. But, as in other diseases the patient is often relieved by art, and would die without it, so it is in insanity. *Médecine expectante*, though practised by Hippocrates, can no longer satisfy any rational pathologist. Nature has been observed long enough in insanity, and we know what she alone can do, viz., cause a great number of insane persons to become fatuous; indeed, further indolence deserves to be reprobated. The usual treatment of insanity is merely symptomatical: in mania they bleed, in melancholia they purge."—p. 270.

Our author does not fail to embrace the opportunity which presents of examining and censuring that systematic and routine plan of treatment of insanity usually hitherto adhered to in England. He is very severe on the opinions of the medical attendants and practice of a certain London hospital for the insane. Neither does he spare M. Pinel's medical treatment. We were pleased however to see that he does ample justice to Mr. Nesse Hill of Chester. They who are not so wedded to scholastic rules as to be blind to original observation, will acknowledge with us, that by perusing that gentleman's "*Essay on Insanity*" they have derived much information.

After exposing the common errors, our author then concludes, "I am of opinion," says he, "that the medical treatment of insanity must be entirely reformed; it is to be reduced to sound principles of pathology in general." And agreeably to those views, the plan of treatment he proposes, is sufficiently judicious; but possesses nothing sufficiently novel or remarkable to require us to detail.

"*Treatment of Mechanic Causes of Insanity.*"—Mechanic injuries of the brain produce various derangements of the cerebral functions; and from all violent causes may originate all the disorders derived from the nervous and cerebral systems; amongst the most prominent of these disorders certainly is insanity.

> "In the greatest number of cases, no surgical operation is indicated; but very often blows derange the functions of the brain in distributing the circulation of blood or the delicate structure of the cerebral fibres. I have seen individuals, the operations of whose mind were entirely suppressed, by their head being violently shaken, while organic life continued its functions. Many persons feel head-ache, vertigo, giddiness, or become insane; and if such individuals die sooner or later after the injury, congestion of blood is detected. Hence it happens in the head, what we perceive in external bruises; and the curative plan is obvious: bleeding, application of ice, snow, or cold water on the head, aspersion with ether; the bowels are to be kept open, and every thing which carries the blood to the head avoided, as spirituous liquors, indigestible aliments, costiveness, violent affections. Moreover, whatever removes the blood from the head must be employed. To this end a more upright position is preferable, mild evacuants to open the bowels, low diet, &c. Sometimes a great weakness of the blood-vessels remains for a long time, and the general treatment is to be continued, as washing the head with ether, cold water, cataplasmata of aromatic herbs boiled in wine, and every thing that can give tone to the blood-vessels. After the first period, bleeding will be of less use; but whatever can determinate the blood to the head must be avoided, as walking in hot weather, dancing, going on horse back, swimming, stooping, &c."—p. 284.

Blisters and vomiting he proscribes; the latter especially as being highly improper, where injury of the head has been sustained, or great determination to it obtains. If an inflammatory state of the brain follow an external injury, and symptoms of insanity supervene, the treatment will follow the general principles of pathology, and the antiphlogistic plan should be adopted.

"*Treatment of the Idiopathic Dynamic Causes of Insanity.*"—According to our author's notions, there are three different states of the cerebral organization; each requiring a different treatment. The functions of the brain may be deranged beyond all doubt by over stimulus; but it may affect one part, says he, more than another, and hence produce a variety of symptoms. He contends, that in erotomania, or nymphomania, for instance, the cerebellum suffers most; in fury and mania, the middle lobes; in too great self-esteem or pride, the cerebral parts at the vertex of the head, &c.

> "The hypersthenic state of the brain may be only local, that is, confined to the brain; or it may be combined with various symptoms of automatic life; in the same way as the affections of other parts are local, such as ophthalmia, diarrhœa, &c., or are accompanied with various other symptoms."—p. 286.

And there is the most decisive evidence of preternatural impulse of blood to the brain. The treatment of these secondary symptoms is, bleeding behind the ears, cold applications to the neck, and low diet; and examples are known where the cure has been effected by spontaneous bleeding or cold.

This state of the brain or its parts, is difficult to detect if it be local; but is rendered more easy to be understood if connected with morbid appearances of automatic life.

Dr. Spurzheim notes some errors which certainly often prevail, and ought to be corrected; first, that violent delirium and fury are the signs only of the inflammatory state of the brain; while it is clear that inflammation may exist without such symptoms, and yet such symptoms may attend without an inflammatory state of the brain; second, that an inflammatory state of the brain sometimes exists unattended with pain.

The brain, proper, is not in fact sensible; and in this respect differs from the nerves. Numerous dissections have induced our author to coincide with Dr. Powell's Observations*, that "inflammation of the brain is by no means infrequent, while we rarely find it unaccompanied by the symptoms, which (according to the theoretical opinions of the schools) should designate phrenitis. The symptoms are referable rather to oppression of the nervous power than to increased activity of the blood-vessels."

> "Fury," says Dr. Spurzheim, "depends only on the excitement of the organs of combativeness and destructiveness, while a too great activity of cautiousness produces melancholy or despondency." —p. 289.

Reasoning upon this sentence, we are tempted to inquire, if any form of insanity originate in the derangement of these and other organs of the brainular mass, in what way medical treatment can aid the cure; unless application be made immediately to those particular organs which are deranged in their actions? For instance, if fury or *mania furibunda* depend only on the too great excitement of the organs of combativeness and destructiveness, it is only to bring into play, that is, to excite the organs of benevolence, or veneration, or self-love, or approbation, to counteract the ill effects likely to ensue from the over activity of the two former organs. Again, if the organ of cautiousness is too active, we would not let the patient sink into despondency, but bring forward the organ of hope to its relief. How these different organs are at our will to be brought into activity, or, when too active, how to be mollified, since our author does not direct, it cannot be expected from us. This then is surely a great defect; for of what utility is a new system of the manifestations of the mind in therapeutics, if, when disordered, they cannot be managed?

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* *Medic. Trans.*, vol. v.

Further, we must hesitate ere we can venture to admit the propriety of including in one sweeping and indiscriminate conclusion, that erotomania, fury, despondency, religious fanaticism, pride, liberality, &c. are to be treated by "lowering." On the contrary, until it be supported by much stronger arguments than any Dr. S. adduces, we feel it a duty to caution his admirers and our readers against the fatal consequences that would inevitably ensue were such a theory adopted as a constant guide in practice. Whenever we felt assured that the case was what the Doctor terms a hypersthenic (inflammatory we prefer) state of the brain, we certainly should prefer the remedial plan proposed. From arteriotomy, or cupping at the temples or behind the ears especially, we have found the most immediate and decided good effects where local depletion was indicated; but general bleeding must be resorted to with more caution, and with a discriminating reference to the previous state and constitution of the patient. It should be recollected, as Dr. S. observes, that "the quantity of blood or the great activity of the blood vessels is not the cause of insanity; it is not *plethora vera;* but" (especially perhaps in cases of melancholia) "congestion from weakness."

> "It is, indeed, a great error to confound congestion with inflammation. In the latter, bleeding is the genuine remedy, and the whole treatment must be lowering; while in the former, at the beginning, a part of the blood must be removed in order to procure a free circulation to the rest; but the cause of the congestion, viz., weakness, must be removed by other means."—p. 248.

The third state "of the brain in insanity from idiopathic causes, our author says, may be called nervous." It has many symptoms common with the second, but it is more dangerous.

> "It exists in very irritable, delicate, and so called nervous temperaments, where violent or long continued disagreeable affections, as anger, jealousy, envy, offended self-love, sorrow, grief, disappointed

> love, &c. have exhausted the bodily strength. In such individuals, all diseases offer a more severe and dangerous character, because the *vis medicatrix naturæ* is enfeebled, and the symptoms are deceitful. Appearances of inflammation, and crudities in the digestive organs, are too often considered as causes of insanity, while they are, like insanity, the effect of the same morbific cause.
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> "The treatment of this state is not bleeding, purging, or vomiting, but antispasmodics and tonics."—p. 294.

From the above considerations, we gather an explanation "why medical practitioners often bestow much praise on the virtues of a remedy in the cure of insanity, while others, equally respectable, decry it as useless, and a third party declare it to be pernicious."

"*Treatment of Insanity from sympathic causes.*"

> "The greatest number of these cases may be reduced to four sorts: viz. insanity is the result either of atony, or inanition of the whole; or of repelled cutaneous affections; or of disturbed functions of parturition, or of the deranged digestive organs. The cases occur, as to number, in an ascending proportion as the divisions are mentioned, so that the first (from mere inanition) are the rarest, and the last the most common."—p. 296.

There are many sensible and useful observations unfolded in discussing these respective considerations; but they are such as may suggest themselves to any intelligent practitioner accustomed to the medical care of the insane. The author judiciously and largely avails himself of the practical hints of other writers, especially of Dr. Hallaran's; and he freely discusses the utility of various remedies which have been tried by them. That which he here says of suicide may be equally applied to the treatment that has been practised indiscriminately in all forms of insanity.

> "The incongruity of remedies administered in this form of insanity [suicide] is inconceivable. As the disease is chronic, and its nature not understood, one remedy after another has been tried, and sometimes the most opposite things employed at the same time. The patient is bled, purged, vomited, blistered; he must suffer issues, or setons; swallow opium, digitalis, and mercury; he is plunged into cold water, takes warm baths; and whatever has been used in medicine is prescribed; and—what is to be expected—the patient is not cured."—p. 300.

Having deprecated the medical treatment, he makes the following apposite reflections upon the application of moral treatment in aid of medicine.

> "In this form of insanity the lowering treatment is to be avoided; the whole proceeding must be enlivening, animating, and tonic. The lancet is destructive, and reasoning good for nothing. The behaviour towards such patients ought to be easy, kind, and accom-

panied with looks of complacency, and not impatient, rough and pitiless. Ridicule ought to be entirely prohibited. Change of situation, and occupation of the mind, are of the highest importance. The disease is cured according to the possibility of removing the cause. If, for instance, a delicate female with great sensibility be married with a drunkard or brutal husband, and for that reason insane, it will be difficult to cure the disease without removing the cause. The direction of the feelings, and the whole moral treatment, are of great importance, but not always sufficient; and the effect of a proper medical treatment is much greater than is commonly understood."—p. 301.

Dr. Spurzheim adds a summary upon the use and effects of purgative medicines, the due action of the skin, the exhibition of diuretics, bathing, digitalis, and the swing.

He concludes this part with an axiom which ought always to be impressed, that "*the mind as immaterial cannot undergo any physical change.*"

One word or two more, and we finish our analytical labour. Dr. Spurzheim, in concluding, says, it was his intention "to contribute to the elucidation of this most complex, most difficult, and *entirely neglected branch of medicine.*" Now we are astonished how any one possessing his information can assert, that insanity is an "entirely neglected branch of medicine;" and must suppose it a loose expression, without reflecting on its literal interpretation. It is quite impossible that a subject is "entirely neglected" which either specially or incidentally has employed the pens of hundreds of writers. Had it been observed, that almost every thing, since the antient physicians, which had been written upon it had been to little or no purpose, we might have coincided: but science is not entirely neglected because merely it does not advance: it is clear, however, that our researches must have taken a very devious course, when so much industry and argument have been employed, and yet so little proof of improvement is exhibited.

There is another point also in the learned Doctor's peroration, upon which, with great deference, we, after the most careful deliberation, are inclined to be a little sceptical; and that is, that "the new ideas he has communicated are founded on observation:" although we are fully prepared to concede that "the manifestations of the mind in their state of health and disease, during many years," may have been "the favourite occupation of his intellectual powers," and that they may continue to be so; yet still there are reasons why we are sceptical.

We have assigned no inconsiderable share of merit to Dr. Spurzheim for the many judicious remarks his book contains illustrative of the pathology of insanity, and for ingenuity of argument. But at the same time, except as far as regards such opinions as are founded upon or are a part of his craniological or physiognomical system, and therefore peculiar to himself and his coadjutor Dr. Gall, we cannot award our author the meed of originality. This is neither the place nor the time to oppugn their tenets: but wherever they are attempted to be obtruded as a guide to practice, we feel it our duty to remind our readers, that these physicians, and those who adopt their doctrines, must pursue their inquiries with a great degree of diligence, upon a very enlarged field, and for a much longer period, before their deductions can be admitted as legitimate.

Without pretending to be acquainted with Dr. Spurzheim's biography, yet it appears to us, that the very nature of his researches must have precluded him from a local habitation for any great length of time. He is yet a young man. He may have, and we dare say has, visited more establishments for the reception of the insane than any other physician, and therefore he may have a general knowledge of their advantages and defects; but that sort of inspection does not lead to the consecutive inference, that he is better informed on the nature of or with the treatment of insanity than others. Such opportunities no doubt would be very favourable for his craniological and physiognomical observations; yet his experience in the treatment of insanity may have been extremely limited.

We think too, that this work itself bears internal evidence, that the practice he recommends is not the actual result of his own observation. His constant reference to the practice of other physicians, his hesitation as to the actual effects of the remedies they propose, the want of original cases to illustrate his reasoning, his system of generalizing likewise, are all proofs that his statements are hypotheses, and his reasoning no more than theory: and as such, we put ourselves on our guard lest we should be led, or be the cause of leading others, into a confidence in Dr. Spurzheim's doctrines and inferences which might prove dangerous.

Although it is one of the novelties of these novel times, to find a foreigner impugning our vernacular tongue as too poor to express, in philosophical language, appropriate ideas; and therefore with the authority of a profound philologist, gravely coining new words; yet we will not, by examining his pretensions to the task too closely, be hyper-critical. Notwithstanding this affectation, and that his style is obviously unequal, and appears as if the work of different writers, yet it is sufficiently perspicuous to evince that Dr. Spurzheim has great talents; that he has read much and seen more; and that he is well acquainted with mankind. Possessing these qualifications, and tinctured with no small share of enthusiasm, he boldly advances his pretensions; and where he cannot fairly convince by logical inductions, he very ingeniously substitutes that species of sophistry which is difficult to refute, because, it is founded on hypotheses, the justness or fallacy of which can be proved only by the test of futurity.

II.

Canine Pathology, or a full Description of the Diseases of Dogs; with their Causes, Symptoms, and Mode of Cure, &c. By Delabere Blaine, Veterinary Surgeon, and Professor of Animal Medicine in general. 8vo. pp. 234. London, 1817. Boosey.

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If the nature, the œconomy, and the habits of the lower animals be objects of interesting inquiry to the naturalist, and their anatomy to the medical philosopher, surely a knowledge of their diseases can neither be unimportant nor unprofitable to the practitioner of the healing art. To one of the morbid affections of the dog, in particular, the attention of the profession has been forcibly impelled, by the awful consequences which result to man from the bite of the animal in that state; but hitherto the disease in the dog which produces that in the man has been scarcely investigated; although it appears obvious that the more rational mode of examining into its nature as it attacks man, would be first to trace it from its supposed origin in the dog. But if the examination of the nature of rabies in the dog has been overlooked, still more have the diseases generally affecting this valuable, although humble, companion and servant of our species been neglected; and even the slightest attention to them has been most improperly regarded, not only as a waste of time, but as a professional degradation. As Mr. Blaine must have been at one time susceptible of these impressions, in common with every other member of the profession, we are not surprised that he should now reflect, with "some pride and self-approbation," that he is "the first person in this country who has systematised and brought forward a [the] regular medical treatment of the diseases of these animals, founded on a knowledge of their anatomy and animal œconomy;" and we are satisfied that those who peruse his work will not only exonerate him from disgrace, but yield him their thanks; and that his exertions in the cause of the brute creation will secure to him "the approbation of every humane and benevolent mind."

To justify his deviation from the regular track of his profession, and to shew that, besides inclination, "the powerful operation of accidental circumstances" led to his adoption of the line of practice which he follows, Mr. Blaine has given a sketch of his professional life in the preface to his volume. We do not conceive it necessary to make any extracts from that narrative; but shall pass on to the Introduction, which contains a slight sketch of the natural history of the dog, and several very interesting anecdotes illustrative of his sagacity and high moral qualities.

Our author agrees with Buffon in supposing that all the tribe of dogs has sprung from one common stock; but, instead of supposing with that great naturalist that the *sheep dog* was the common parent, he thinks "the species which approaches nearest to the original is the *Asiatic* or *Indian dog*, eaten by the natives." He conceives the original dog must have been intended to outstrip in speed the animals he preyed upon; hence "the sharp-pointed head, the small upright ears, deep fore quarters, with great length and strength in the hinder ones;" qualities which are eminently possessed by the Asiatic dog, who is besides "ferocious, suspicious, watchful, and sleeps lightly;" and further possesses the seeds of generosity, fidelity, and gratitude. Accidental circumstances, change of climate, and artificial causes, are sufficient, in his opinion, to account for all the varieties of form in the tribe; while most of the moral qualities of the animal are altogether the result of cultivation or domestication with man. To illustrate these qualities, many anecdotes, as we have already remarked, are detailed, either from our author's own observations, or on good authority.

Our author commences the proper subject of his work by some general remarks on the effects of remedies on dogs, and the mode of administering them, which convey several facts of considerable importance to those who, being engaged in experimental inquiries on the effects of poisons or of medicines on the animal œconomy, choose the dog as the medium of their experiments. Thus we are informed that ten grains of calomel, which is by no means a destructive dose to a human subject, has killed a large pointer; that three drachms of aloes may be taken by some large dogs with impunity; and that it is almost impossible to poison a dog with opium, a drachm producing but little effect; while, in general, the largest dose that can be given is "returned before its narcotic influence is felt." The difficulty of administering substances to dogs has been felt by all experimentalists; and we confess the knowledge of the directions contained in the following paragraphs would frequently have saved us much trouble.

"Place the dog upright on his hind legs, between the knees of a seated person, with his back inwards (a very small dog may be taken altogether into the lap). Apply a napkin round his shoulders, bringing it forwards over the fore legs, by which they become secured from resisting. The mouth being now forced open by the pressure of the fore finger and thumb upon the lips of the upper jaw, the medicine can be conveniently introduced with the other hand, and passed sufficiently far into the throat to ensure its not being returned. The mouth must now be closed, and kept so, until the matter given is seen to pass down. When the animal is too strong to be managed by one person, another assistant is requisite to hold open the mouth; which, if the subject is very refractory, is best effected by a strong piece of tape applied behind the holders or fangs of each jaw.

"The difference of giving liquid and solid medicines is not considerable. A *ball* or *bolus* should be passed completely over the root of the tongue, and dexterously pushed some way backwards and downwards. When a *liquid remedy* is given, if the quantity is more than can be swallowed at one effort, it should be removed from the mouth between each deglutition, or the dog may be strangled. The head should also be completely secured, and a little elevated, to prevent the liquid remedy from again running out.

"Balls of a soft consistence, and those compounded of nauseous ingredients, should be wrapped in silver or other thin paper, or they occasion so much disgust as to be returned."—p. 4.

This section contains also some excellent remarks on "the intenseness of mental feeling" in the sick dog, and the necessity of attending to its effects, which may be perused with advantage by the majority of medical practitioners. In the observations on the operation of astringents, the fact is stated that sugar of lead (plumbi superacetas), when injected per vaginam in uterine hæmorrhages, to which bitches are liable, "often produces violent cholic."

The article *Breeding* contains some curious physiological observations. The effect of the male parent on the progeny, for example, is well illustrated by the fact that bitches, by uniting in their œstrum with any dog, however large, often die in their pupping time "from the excessive size of the puppies." The appearance of the young to either of the parents, however, does not seem to be regulated by any fixed laws; for sometimes the puppies are of a mixed breed, between that of the father and of the mother, when they differ; while occasionally some are of the same breed as the one parent, and some of that of the other: thus a pointer bitch, breeding by a setter dog, will produce some pointers and some setters. We may remark that something analogous to this obtains in the human species; for, occasionally, in the family of a negroe woman by the same white man, we see some of the children extremely dark, with features closely approximating to those of the African, while the others have the features of the father, and are nearly as fair as European children. Our author is disposed "to think that bitches are capable of superfœtation;" but he does not support his opinion by any very satisfactory reasoning.

Bronchocele is a common complaint in some particular breeds of dogs; and Mr. Blaine remarks, "the treatment is not difficult, nor unsuccessful, when early adopted." In the human species the reverse is the case; and we believe we may assert that the internal remedy he recommends, a combination of *burnt sponge* and *nitre*, has failed in the hands of most medical practitioners. We would nevertheless recommend a trial of his external application, which is composed of equal parts of mild mercurial and blistering ointment, and is ordered to be rubbed upon the swelling once a day, "wrapping up the neck with a bandage, to prevent the ointment from being rubbed off:" but as an application to the human skin, it might be adviseable to take one part of the blistering ointment only to three of the mercurial.

On the subject of the *Distemper*, our author asserts that, "in England at least, hardly any dog escapes it." The attack commences at no fixed age, but generally before the dog attains his full growth, and seems to depend on a constitutional predisposition. Second attacks are not uncommon; but a third attack is extremely rare. Its symptoms resemble, in some degree, those of violent catarrh in the human species; and, like it, the occasional cause is cold; but it is also contagious, and the danger is in proportion to the youth of the animal. It is now and then attended with a particular eruption, and almost always with diarrhœa and convulsions. The treatment is vomiting and purging in the commencement, followed by febrifuge medicines and astringents; or, if convulsions be present, by a compound of ether, laudanum, camphor, and ammonia. The fits, when present, are shortened by sprinkling cold water in the face, and by soothing language, the intenseness of the mental feeling being much augmented while dogs are labouring under this disease.

We would recommend to Mr. Blaine, the trial of inoculating dogs with vaccine lymph, as a preventive from the *distemper;* since from the experiments of *M. Nauche* of Paris, *(See Journal de Médecine, Chirurgie et Pharmacie, Mars* 1817,*)* although not very satisfactorily detailed, yet they afford sufficient reason to suppose, that vaccination in many instances proved a prophylactic against the contagion of this morbid affection, so fatal to the canine race.

Dropsy, in most of its varieties of form, is by no means an uncommon complaint in dogs. It is not so frequently idiopathic as in man; but is generally the consequence of some organic affection, as, for example, old asthmas, diseased liver, and obstinate or neglected mange. Tapping has been resorted to by Mr. Blaine; but with as little permanent utility as this operation affords in man; nor have diuretics proved more successful. Contrary to what might be expected, *hydatids* are rare in these animals.

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aine justly regards the term *hydrophobia*, when ap-
to designate this disease in the dog, as highly exception-
; since the animal, "instead of shewing any dread of water, most instances seeks it with avidity, and laps it incessantly." He notices the evils that this opinion has led to, in lulling into dangerous security persons bitten by dogs actually rabid; and, in particular, refers to one instance, in which an eminent physician, on being consulted by a person bitten, "recommended that no precautions might be taken," because he was informed the dog could drink.

> "His advice," adds our author, "had it been followed, might have caused the death of three persons. Fortunately for them, his opinion was not attended to, and I dissected the wounded parts out of each of them. In five weeks, an unfortunate spaniel, who had been bitten by this same dog, became mad; and in six weeks a horse, bitten by him, became mad also."—p. 99.

It often happens, however, that, from a paralysis of the lower jaw, the dog is unable to swallow the water which he so eagerly laps; but, even in this case, so far from betraying dread or disgust to water, Mr. Blaine remarks, "I have frequently seen the nose thrust up to the eyes into a vessel of cold water, purposely to enjoy the sense of cold occasioned thereby."

Another absurd popular error, combated by our author, is the opinion that the *worming* a dog, which is merely removing the frænum from the tongue, "will prevent his becoming rabid at any future time."

As far as the dog is concerned, the term *madness*, although adopted by Mr. Blaine in compliance with general prejudice, is regarded as improper; as in very few instances are the mental faculties much distorted, and the animal recognizes the voice of his master, and is obedient to it, frequently to the last moment of his existence.

"In other animals, however, there is more propriety in the term; for even the peaceable sheep become astonishingly ferocious in this malady. In the rabid horse, the sight is most terrific: I have seen one clear a six-stall stable of racks, mangers, standings, and posts; and every thing, but the bare walls, was levelled into ruins around him. On the mal-appropriation of this widely-diffused term I shall have numerous other occasions of remarking."—p. 102.

Another opinion still, which our author endeavours to controvert, but certainly we think with less force, is that which supposes, that the disease is occasionally bred in the dog who exhibits it; while he maintains "that every rabid dog must have been previously bitten:" and this opinion he grounds "in long experience," and a mature consideration of the subject. Consistent with this doctrine also, he conceives it is "erroneous to suppose, that the disease is more prevalent during summer than in winter." We do not mean to attempt to weaken the force of these remarks; but we must confess we cannot shake off so completely our fostered prejudices as implicitly to adopt them. We are willing to admit, however, that "tradition and error may have implanted these prejudices in our mind in common with that of the public, and that we may find on attentive examination and from experience, that they are wholly without foundation."

Our author's description of the symptoms of rabies is not very methodical; but in our analysis of it we shall endeavour to give it a more perspicuous arrangement.

When a healthy dog is bitten by another which is rabid, the disease seldom shews itself before the third or fourth week after the accident; sometimes the seventh week passes before the symptoms are apparent; and occasionally three or four or more months elapse. Accidental circumstance, however, hasten the attack; as, for example, a long and fatiguing journey; a cold; or, if the animal be a bitch, the presence of the œstrum. Something also depends on the part that is lacerated; for when the head has been bitten, the symptoms of rabies sooner appear. The first symptoms are very obscure, and consist chiefly in some peculiarity of manner in the animal; as, for instance, the picking up and swallowing of straws, threads, paper, and many other things that a dog will not eat when he is well: he gnaws also every article within his reach; there is a great predilection for applying the nose to any thing that is cold; and he frequently scratches and bites himself, particularly in the part which was bitten. The appetite is not much impaired, although some cases are attended with sickness; but the taste is often so depraved, that the animal eats his excrement and laps his urine.

After a day or two, the dog generally leaves home and roves about, displaying a great antipathy to other animals, particularly his own tribe, and biting every dog that comes near him. He seldom however attempts to bite a man, unless hunted into fury, or otherwise much irritated; but occasionally very little irritates him, such as the merely presenting to him a stick or the foot. The usual meekness of the animal is often conspicuous to the last, particularly to his master; but sometimes, whilst every mark of tractability is displayed, "he will be very likely to turn on a sudden, and snap at the person who is caressing him." When roving about, some dogs are silent; but the majority howl or bark with a very altered tone of voice, which is readily distinguished from that of health. If an affected dog come up to another—

> "little or large, he goes up and smells to him, in the usual way of dogs, and then immediately falls on him, usually giving him one shake only: after which, he commonly trots off again in search of another object. The quickness with which this attack is made, very frequently surprises the bitten dog so much, as to prevent his immediately resenting it: but nothing is more erroneous than the supposition, that a healthy dog instinctively knows a rabid or mad one. I have watched these attacks in numerous cases, and I have seen the mad dog tumbled over and over, without the least hesitation, by others that he had attacked."—p. 113.

The younger the dog is, the greater is the disposition to rove, the more striking are the symptoms of mental alienation, and he is proportionally wilder and more mischievous. These are the usual symptoms of the disease in the dog; but scarcely two cases are alike in any of the particulars. Our author ascribes this diversity to the parts principally attacked.

> "When the inflammation exists most in the bowels, it generally produces an affection of the neck and throat. This affection consists in a trifling enlargement of all the parts around; the tongue hangs out, and is discoloured, and, from a partial paralysis of the muscles of deglutition, there is frequently a difficulty, but never any disinclination to swallowing. In such cases there are also greater heaviness, stupor, and distress, with a marked weakness of the hinder parts. It is this kind, from the dropping of the jaw, that sportsmen are led to call dumb madness; but it is evidently incorrect so to call it, because it is often accompanied with howling.
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> "On the contrary, when the lungs are the principal seat of the affection, there are usually much more quickness and irritability in the dog's manner. He rather barks, with a hasty and altered tone, than howls. He snaps at passing objects, as flies, and shakes his chain, or the vessels he drinks out of, with seeming violence: but all this is the irritability of a moment; for the voice of his owner will generally quiet him at once. As in some cases, however, both the abdominal and thoracic viscera are nearly equal partakers of the specific inflammation; so these symptomatic appearances

often blended, and appear, though in mitigated degrees, in the same subject."—p. 110.

The eyes are commonly red and suffused in the early stage of the disease, and now and then ulceration of the pupil supervenes. The animal often displays symptoms of uneasiness in the bowels, by gathering straws and applying them to the bowels; and costiveness is always present.

Sportsmen notice two varieties of rabies, which they denominate *dumb* and *raging*. The former is the more common; and is usually attended with a considerable affection of the mouth and throat.

> " To speak anatomically, the whole of the pharynx and larynx are tumified, and the surrounding muscles affected with paralysis. From this cause the lower jaw drops, and is incapable of remaining closely applied to the upper. The tongue becomes also affected with the paralysis, and hangs pendulous without the mouth. A similar torpor apparently pervades the blood vessels of these parts, which become filled with venous blood: the tongue in particular is black, more especially so at the apex or point: sometimes a black stripe extends along the whole extent. The paralysis extends to the back of the œsophagus, from which a great difficulty is frequently experienced in swallowing; but in no instance is any dread of liquids expressed; nor does even the attempt to swallow appear to give pain. The larynx, participating in the affection, occasions a deep choaking kind of noise, which seems to issue from the bottom of the glottis.
>
> " Sometimes the mouth is quite dry and parched; at others it is very moist, and a quantity of saliva continually flows from the jaws. When the mouth is affected in this manner, the sufferings of the poor animal are extreme, for his thirst impels him to be continually lapping; but the paralysis of the lower jaw prevents his retaining the liquid in his mouth, and it falls out as fast as taken in."—p. 115.

The duration of the disease varies very considerably. It seldom proves fatal before the third day; but few dogs survive the seventh. The average deaths happen on the fourth and fifth days.

Our author had many opportunities of ascertaining the morbid appearances presented by dissection in dogs affected with this disease, and he has availed himself of them. When there has been much irritability, panting, and disposition to mischief, the brain and its membranes exhibit marks of increased vascularity; and the same is the case with the lungs, one side of which is generally more inflamed than the other; and when the animal has actually died of the disease, the lobes of this viscus are found black and gangrenous. When however there has been a disposition to collect straws, and to place them under the belly, and to swallow indigestible substances, as hay, rope, wood, coals, &c. the stomach and bowels chiefly are inflamed, and the above enumerated substances are found united, and forming a crude mass in the stomach. This is regarded by our author as one of the most certain evidences of the previous existence of the disease. The mesentery, the liver, and the diaphragm, also occasionally exhibit marks of inflammation; but this Mr. Blaine regards as altogether sympathetic. In the majority of cases, some inflammatory appearances are visible at the posterior part of the mouth, and in the pharynx; and a peculiar inflamed spot, which is highly characteristic of the disease, is always discovered at the back of the fauces.

Mr. Blaine very justly remarks, that neither in the dog nor in the human animal ought we to place much reliance on any method of preventing the disease after the bite has been inflicted, except the part be excised. This can always be effected in man; but in animals it is sometimes difficult to discover the parts that have been bitten; and consequently he was desirous to discover some preventive of the attack, and he is fully persuaded he has accomplished this in the following recipe, which he obtained from "a cottager of the name of Webb, near Watford." We subjoin it, not because we would place much reliance on its efficacy; but that it may be submitted to a fair trial on dogs; for we should be sorry to find the safety of any of our fellow creatures confided to its powers.

"The following, which is an improvement on the original formula, is that which, after much experiment, I find the best method of preparing the remedy:—

Take of the fresh leaves of the tree box...	2 ounces
Of the fresh leaves of rue...............	2 ounces
Of sage..............	half an ounce.

Chop these finely, and, after boiling them in a pint of water to half a pint, strain and press out the liquor. Beat them in a mortar, or otherwise bruise them thoroughly, and boil them again, in a pint of new milk, to half a pint, which press out as before. After this, mix both the boiled liquors, which will form three doses for a human subject. Double this quantity is proper for a horse or cow; two-thirds of it is sufficient for a large dog, calf, sheep or hog; half of the quantity is required for a middling sized dog; and one-third for a small one. These three doses are said to be sufficient, and are directed to be given, one of them every morning fasting. Both the human and brute subjects are treated in the same manner, according to the proportions directed.

"In the human subject I have never found it produce any effects whatever but a momentary nausea from disgust. To prevent this disgust operating disadvantageously, the old recipe directs it to be given two or three hours before rising, which is not a bad plan, because it will be less likely to be brought up again by such precaution, which so large and unpleasant a dose might otherwise be. Neither in any animal, except the dog, have I ever witnessed any violent effects from the exhibition of this remedy. In dogs, however, I have frequently seen it produce extreme nausea, panting and distress; in two or three it has even proved fatal: but, as I conceive that it is more likely to be efficacious, when it shews its effects on the constitution; and as, at the same time, it is proper to guard against these effects being too violent: so it is prudent always to begin with a smaller dose than the one prescribed, and to increase it each morning till it shews its activity, by sickness of the stomach, panting, and evident uneasiness. In such cases, perhaps five doses are not too much.

"In a long and successful practice, I have given this remedy to nearly three hundred living beings. About fifty human persons have taken it, eight or nine horses, several sheep, and a few cows and hogs. The rest were dogs; but in almost all I was enabled to trace the history of the danger, to a conviction, that the animal concerned had been bitten by a dog unquestionably mad. Out of this number, I am happy to state, and which I conscientiously and solemnly do, that only nine or ten instances of failure have occurred; but candour obliges me to own, that four or five of these were palpable and fair cases; for the medicine was given *apparently* with every caution."—p. 128.

Our author nevertheless leans as he ought to do to the superior safety of excision; but he thinks "it is of no consequence that the excision or cauterization should be immediately effected; as it is equally efficacious if done at any time previous to the secondary inflammation of the part bitten." We would accord with this opinion did we conceive it likely that individuals would as readily submit to excision after some time has elapsed from the infliction of the bite, as directly after it has been inflicted; but as this is not to be expected, we are of opinion that the excision cannot be too soon effected; although it ought not to be left undone, should even some days have passed, under the impression that it is then too late*.

The only notice we conceive necessary to be taken by us regarding *mange*, which is the subject of the next section, is to mention the idea of our author, that "the canine mange is capable of producing the human itch." We are not prepared to deny the assertion, but we doubt its accuracy; for as very few dogs escape an attack of mange, were it capable of communicating scabies to the human subject, we should find the disease more prevalent than it is, particularly among the lower classes of people, among whom, few families are without a dog.

Rheumatism is a disease almost as common to the dog as to man; but in the quadruped it is attended by some peculiarities. Thus in the dog, it is never present without affecting the bowels; and paralysis of the hind legs is also a common accompaniment of the complaint, when it affects the lumbar muscles. The treatment recommended by our author, consists of the internal exhibition of purgatives combined with opium, the use of the warm bath, and the local application of an embrocation composed of oil of turpentine, spirit of hartshorn, laudanum, and sweet oil, in equal proportions.

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* For our particular opinions on this subject, see *Repository*, vol. iii. p. 47-54.

Dogs are very subject to tænia, the lumbricus teres, and ascarides: they are also troubled with another kind of worm which is not found in the human body, and which Mr. Blaine describes very vaguely, by saying that it has a short body resembling that of a maggot, and a red or black head. There is nothing new in the treatment recommended; but we are surprized that he appears to be ignorant of the effects of oil of turpentine in tænia.

We conceive it unnecessary for us to go through the remaining articles of the volume, which are of a nature that renders them interesting to those only who are immediately concerned in the treatment of canine diseases.

In concluding, we have only to remark, that in a general point of view, this volume is certainly interesting, as extending the limits of pathology, and affording an illustration of the influence of morbid causes on the animal frame, modified by habit and circumstances. Yet reflecting that its author received a regular medical education, we have been struck with the limited knowledge of physiology it displays; and the few efforts he appears to have made to illuminate many important questions in the doctrines of animal life, compared with the many opportunities he possessed. In a second edition of the work, he may supply this deficiency; and we would also recommend him to improve his style of writing, and to correct the many grammatical inaccuracies that deform the pages of the present.

PART III.

SELECTIONS.

On the Use of Balsam of Peru in Sphacelous and Phagedenic Ulcers. By Whitelaw Ainslie, M.D.

As the information contained in the following letter has, we believe, never been published in Europe, no apology is necessary for its appearance in the pages of the *Repository.*—Editors.

To the Honorable Court of Directors of the East India Company.

Honorable Sirs,

I some time ago transmitted to the Superintending Surgeon of the Centre Division of the Madras Establishment, for the information of the Medical Board, a Letter containing an account of a new method of treating a dangerous and but too common disease in our Indian dominions, and involving, in the detail, virtues in a medicine which I believe have not hitherto been particularly noticed. I was gratified to learn that my paper had been well received, and that measures had in consequence been taken, to have the mode of practice recommended amongst the professional men of this Coast.

A continuance of success in the management of the same malady, since that period, has emboldened me to address to your Honorable Court, through the Superiors of my line in this country, a more specific account of what I have done; from a conviction, that any well-intended tract, on a subject of public utility, from whatever servant it may come, cannot be unwelcome to you; and as I conceive that in this way I have adopted the most proper channel, through which I could ever possibly hope to advise the medical men of England of what had been found worthy of attention in the climate of Asia.

There are, I believe, few diseases to which the human frame is liable, that have oftener baffled the skill of our surgeons, in all parts of the world, than those called Ulcers, and which form a very numerous and multiform class. It is not my purpose at this time, however, to particularize the different kinds which have been treated of by many late able writers; nor to point out how far in every case, what may have been recommended as advantageous in the cure of them in cold climates, has been thought beneficial in warmer latitudes; though I must confess that the field is a very fair one for ingenious and useful discussion, and unquestionably one hitherto but little trodden: I shall therefore without further delay, proceed to lay before you the immediate object of this report, in communicating what has come within my own observation, regarding some of the worst kinds of ulcer in this country; with an account of a mode of treatment, which, as it is uncommon, may perhaps be in some measure interesting; and, from its having in every instance in which I have had recourse to it, been attended with success; may at least be deemed worthy of a more extensive trial.

Whilst I had charge of the Field Hospital at Hurryhur, (in the months of March, April, and May, 1803,) which received the sick of the Grand Army then under the command of His Excellency General Stuart; it was with peculiar uneasiness that I witnessed the great havoc committed by what are called the sphacelous and phagedenic ulcers. They were at that time confined almost entirely to the native corps, and especially to such as had been recently exposed to great fatigue, cold, moisture, and poor living in unhealthy districts; most of the Sepoys who were so affected, ascribed their misfortunes to slight causes; such as scratches, bruises, &c. but which, in place of healing up kindly, soon became foul and painful ulcers; the discharge ichorous and offensive, the edges rugged, and attended with a degree of inflammation for several inches round. These sores for the most part spread rapidly, not unfrequently laid the bones bare, and were accompanied in every instance with the greatest debility and anguish in the patients; whose appetites soon became impaired, their pulses quick and feeble, and in fact a hectic diathesis was evidently induced from the absorption of morbific matter, of a most dangerous nature. Every external application, and every mode of bandaging and management was had recourse to, at different times, as recommended by Messrs. Bell, Home, &c. but, I am concerned to say, with little or no good effect, nor did bark and wine seem to be of much service; and the few cures we did accomplish, were never without great loss of substance, nay, sometimes the limb itself; and but too frequently left the patient emaciated and drooping. I could not help feeling for the sufferings of so many valuable men, and regretted that some more efficacious remedy had not been discovered, to arrest the progress of this most lamentable disease; and this regret I oftener than once expressed to Dr. Berry, the superintending surgeon of the division to which I belong, a gentleman, from whose professional research I have on many occasions experienced the most flattering support. His cause of anxiety on this occasion, he informed me, was not less than mine, and he was at much pains to explain to me all that had been done, in such dangerous cases, by several of the surgeons of his extensive circuit. After my return to the Carnatic, about, I think, the end of August 1803, it was not for many months that I had a phagedenic ulcer under my care, when one occurred in a Lascar of the second battalion of artillery at St. Thomas's Mount; aware that if something more powerful than any thing I had formerly used was not applied, I should in a few days witness a repetition of all the sad symptoms that had caused me so much distress at Hurryhur; I was determined to try what could be done, and bethought me of the balsam of Peru, a medicine for some years past almost entirely neglected. But as I knew it to be stimulating in a high degree, and at the same time balsamic, I could suggest nothing from which I could more reasonably look for advantage. The Lascar's sore, when I first saw it, was not larger than a crown piece, situated near the inner ankle of his left leg, and first brought on, he said, by a slight blow; it was foul, offensive to the smell, and evidently phagedenic; the patient was weak and irritable, his appetite gone, nights restless, and his pulse weak and fluttering. I immediately ordered the sore to be dressed twice daily with lint moistened in the balsam of Peru; and the better to judge of the effects of the application, I prescribed for him no *internal medicine* whatever: at the end of twenty-four hours I was happy to perceive that the sphacelous parts were beginning to slough off; by the third day, the face of the sore was quite clear, and in a day or two more, fine new granulations being seen on its surface, I found my purpose effected, and laid aside the balsam, for which I substituted common cerate dressings, with a tighter bandage. The sore, thus reduced to the state of a simple ulcer, healed up kindly in a short time; about a fortnight after this, I had the good fortune to experience equal success from the balsam, used in the same way, in a case of irritable phagedenic ulcer, upon a soldier's foot, of the second battalion of artillery, and which was communicated to Dr. Berry, in my Medical Journal for December 1805. To this man, however, I must observe, as he complained of most excruciating pain, I gave a bolus every night of two grains of opium and two of camphor, but to these medicines I did not in any degree ascribe his recovery.

It was at this period that I visited the naval hospital at Fort St. George, accompanied by the surgeon in charge (Mr. Underwood), who was so obliging as to shew me every remarkable case at that time under his care. Out of about 300 sick seamen, there were nearly 200 afflicted with malignant ulcers, such as we see mentioned by Home*, Lind†, and most particularly by Dr. Trotter‡, in his valuable work intitled *Medicina Nautica.* This last mentioned gentleman, in more parts than one of his book, speaks with horror of the malady, and with much regret at the so frequent want of success in the management of it. Many of the ulcers in the naval hospital at Madras were dreadful to look at; in some, large portions of the bones of the leg were exposed, and, in spite of the most humane care and attention, not a few of the patients were rendered lame for life; in others, amputation became necessary‖; and all, who had ulcers of any extent, seemed evidently to suffer from the absorption of *ichor* and putrefaction. What Mr. Underwood found most benefit from, were tincture of myrrh and Venice turpentine, in the way recommended in the Edinburgh Practice of Medicine (Vol. iii. p. 304); he also used occasionally a solution of lunar caustic and red precipitate. But he seemed above all to place reliance on the most strict attention to diet, which he ordered to be light and nourishing.

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* See Home's *Treatise on Ulcers,* p. 106.

† See Lind's *Treatise on the Scurvy,* p. 154, 155.

‡ See Trotter's *Medicina Nautica,* vol. ii. p. 179.

‖ Mr. Underwood informed me, that he sometimes found after amputation the sphacelous affection attack the stump itself.

I did not hesitate to inform him of the great advantage I had found in cases of sphacelous and phagedenic ulcer from the external application of the balsam of Peru, and advised him by all means to try it in his hospital; but he has not yet informed me with what success. However, I was not suffered to remain long in doubt regarding the powers of this remedy in cases of malignant ulcer after a long sea voyage; the fleet of Indiamen that arrived at Madras about three months ago, from England, had been nearly seven months at sea, and, having on board 300 recruits for the Coast Artillery, I found several amongst them scorbutic, though in a slight degree. Some little time after their reaching the Mount, and coming under my care, it was necessary to punish two men; and though the punishments were moderate, (neither of them having received more than two-hundred lashes,) I soon saw what I had to expect from the event: their backs, in place of healing up kindly as is commonly the case, shortly put on an ugly aspect, and, towards the end of the third day from the flogging, two little ulcers made their appearance on the parts that were most bruised, each about the size of a rupee, with a white viscid matter inside, and uneven edges. Before I had recourse to the balsam of Peru, I was resolved to see what could be done with other remedies, and with the exception of the gastric juice* of gramenivorous animals, which in cases of this nature has been recommended by Dr. Harris†, a physician of the navy, as well as by Dr. John Harness‡; there is nothing which has been advised by any late writer, whether external or internal, that I did not try, without, I must say, the smallest lasting good effects; it is true, that the tincture of myrrh and turpentine, the solution of lunar caustic, the camphorated spirit and alcohol, did occasionally, for a time, operate in clearing away part of the corroding matter; and the bark, wine, and tinct. ferri muriat. gave, I thought, a degree of support to the sufferers: yet, the effects of all these were but transitory; the sores increased daily, and no relief was gained in regard to the general feelings of the patients. Before I began to apply the balsam of Peru, the ulcers on the men's backs were each as large as a common sized hand, deep, frightful, and most offensive to the smell, in spite of frequent washings with decoction of bark, tincture of myrrh, and the nitrous acid. The patients were otherwise extremely weak, languid, and spiritless, their pulses quick and fluttering, appetites gone, nights restless; in fact, labouring under the most wasting hectic diathesis, and to all appearance hastening to dissolution. To the ulcers of these two recruits, the balsam of Peru was first applied on the same day; but to the one man I continued the use of bark and wine internally; from the other they were stopt; but both went on with their ripe fruit and light farinaceous diet. I shall not detain you, Honourable Sirs, with more particulars; suffice it to say, that, from the first day's application of the balsam, the sores put on a favourable appearance, the mischief was in fact arrested, and the patients seemed to feel an almost immediate relief; by the end of the third day the sores were clean, and by the end of the fifth, new granulations were every where seen rising up; their pulses, appetites, and spirits returned to their natural state; and they again enjoyed sleep without an opiate, which they had not done for many nights before. The ulcers being thus reduced to the state of simple sores, the balsam was discontinued for other dressings, and the men were discharged for duty. These two cases were detailed at full length in my Medical Journal for March 1806, forwarded to the Medical Board at Fort St. George.

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* The late Mr. Justamond, we are told by the author of the *Edin. Practice of Med.*, used this remedy in similar cases many years ago.

† See Home's *Treatise on Ulcers*, p. 107.

‡ See *Medicina Nautica*, vol. ii. p. 223.—Mr. Stewart Henderson, in the *Medical and Physical Journal*, has given an excellent account of this ulcer to the world, as it appeared to him in the naval hospital at Antigua in 1780. He mentions it as one of the greatest scourges amongst our seamen, and it would appear that he placed his chief reliance in treating it on the hydrarg. nitrat. rub. and camphorated spirit as external applications, with the bark internally.

(To be continued.)

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

ANATOMY, PHYSIOLOGY, PRACTICE OF MEDICINE, AND SURGERY.

Dr. Granville's *Communications on the Progress of Medical Science in France.*

LETTER VI.

“At one of the last meetings of the Society of the Faculty of Medicine, M. Esquirol read a Memoir on Epilepsy, in which he relates that, having had occasion to examine about fifteen subjects who had died in consequence of severe paroxysms of that disease, he constantly found the superior portion of the spinal marrow in a softened state, and of a grey or rosy colour. This led him to apply the moxa several times on the vertebral column in a young girl in whom the paroxysms of the disease returned with the menstruation. By this treatment the paroxysms became at first less frequent, and of much shorter duration, till they ceased at last altogether.

" There is a young woman now living at Versailles, aged twenty-four, and married, who has never menstruated, and in whom there is reason to suspect the non-existence of the uterus. The external parts of generation are very imperfect. There is an opening of a very small diameter, at the bottom of which a largish orifice serves for the passage of the urine. No other part of the vagina is visible. The woman never suffered any material inconvenience from this singular conformation till the epoch of her marriage, when the wish of remedying, if possible, this imperfection by an operation, led the parties to call in surgical assistance. Nothing as yet has been done for her. The finger introduced through the rectum cannot discover any sign of the existence of the womb.

" An operation on the rectum was, within these three days, performed by Boyer at La Charité. You may recollect the memoir this gentleman read on the strictures of that intestine. The present was a case of this kind; and Boyer not only made an incision through the sphyncter, but brought away a portion of the diseased intestine. A very abundant hæmorrhage took place a few hours afterwards, and the patient died next day—not from the latter accident, but, as I have reason to suspect, from a portion of the peritoneum having been brought away with the intestinal fragment, by which an opening was made into the cavity of the abdomen, giving admittance to blood and the fecal matters.

" The eighth volume of the Transactions of the Medical Society of Emulation has just appeared. It is a valuable collection of facts, which I shall make it a point more particularly to detail in a future communication.

" Dr. Portal has informed me, that his great work will shortly be ready for the press, for which numerous materials have been collected from the most authentic sources, " De Causa et Sede Morborum." It will be in five volumes, octavo, and will contain the History of the Diseases he, as well as many of his colleagues, have had occasion to observe during a very long practice, accompanied by a description of the organic lesions discovered on dissection.

" M. Esquirol will shortly publish the history of all the organic alterations he has met with in the course of his practice in dissecting the bodies of insane persons who died at the Salpêtrière, and which have been very numerous.

"Of the many lectures given in this capital, that of Orfila, on Medical Jurisprudence and Toxicology, illustrated by numerous experiments on dogs, in which I assisted, is just finished. Crowds of students and others are now attending Vauquelin on Animal Chemistry and Cuvier on Generation; both which courses are of the highest interest and importance.

"In the department of the profession more immediately my own, that of Midwifery and the Diseases of Women and Children, I have many important and curious facts which I might communicate. But I must reserve them for the work I shall publish on those subjects on my return to England.

"You will in the mean while oblige me by announcing to the public that I shall have ready for publication, early in 1818, a work, in two volumes, with plates, on the Actual State of Science and Scientific Instruction in France; including a general and detailed account of the System of Medicine and Surgery, the hospital establishments, scientific men and their writings, and a description of every object connected with science in general. A. B. GRANVILLE."

Paris, July 20, 1817.

II.—Cure of a Case of Chronic Trismus, with an induration of the muscles, by *Dr. Jasinsky.*

"Majorkowa Szlagu, a native of Lomza, in Poland, twenty years of age, was received into the Policlinicum on the 22d December 1814. Her condition was as follows: she was of a pretty robust constitution, her eyes and complexion lively, her right cheek perceptibly swoln, on both sides very large scars to be seen, which extended as far as the ears, and the muscles of the right cheek were entirely indurated. On the inner surface of the masseter muscle the constriction and induration was so strong, that it felt like a flaxen chord, and it was scarcely possible to introduce a finger between it and the gums, whereby the jaws were so firmly locked, that not the point of the little finger, nay, scarcely the head of a large pin could be introduced between the teeth; and some callosity also was plainly felt in the articulation of the jaw. The appetite was good, but the patient could take fluids only; the belly was somewhat hard, the pulse quite regular, and also the menstruation. No traces of syphilis were to be observed. This state originated from fire, which occasioned a long suppuration, and scrofulous metastases. It had been rendered worse by her having caught cold, and subsequent rheumatism.

"She was born of healthy parents, passed through the infantine diseases, and, according to her own words, had always enjoyed good health; although some swelled glands of the neck proved her not to have been entirely free from scrofulous diathesis. The menses made their appearance when she was fourteen years of age. She was married the same year, and in the course of a twelvemonth was safely delivered of a boy. Four days after being brought to bed, a fire broke out in the house, when the flames firing her bed, her neck was burnt in such a manner, that the skin, and the muscles, such as the platysma myoides, sterno-cleido mastoideus, &c. together with the back part of the ear, were burnt. The effects extended to all the neighbouring parts, and nearly took a twelvemonth in healing, leaving a large scar; but the patient still could move the jaw, and found herself pretty well, till about four months before, when a sudden fright, and violent cold, brought on an immobility of the lower jaw, which she could neither move downwards nor sideways; and of course mastication was impossible; therefore she was forced to live upon fluids. Various remedies had been applied, but without success; and for the sake of getting cured, she undertook a journey of 130 German miles to Berlin; but had the misfortune of being more than once overturned into the water on the road, from which she again caught a violent cold.

"The great destruction of the muscles, which had already become callous, together with the articulation of the jaw, and the long existence of the evil, gave an unfavourable prognosis.

"The indication was directed to the local dissolving and molifying the induration and contraction, and also to operating vigorously upon the lymphatic and absorbent systems. For this purpose, I prescribed—℞ Calomelanos, Sulph. aurati, ana, gr. ii. Sacchari albi Syrupi. q. s. fiat Pulv. disp. dos. Nro. 6. Morning and evening, half a powder.—℞ Extr. Cicut. drachm ii. Pulv. Hb. Cicut. q. s. ut fiant pil. Nro. 120. Two pills to be taken three times a day, increasing the dose one pill every second day.—℞ Unguent Althaeæ Ung. Hydrarg. ana, ℥ ss. Camph. tere. ʒ i.; to be rubbed in on the indurated parts every day. Perpetual blisters behind the ears, and continued warm cataplasms of linseed and cicuta on the cheek and jaw, together with warm baths, were also ordered. These remedies were continued for three months without interruption, except when on the appearance of salivation, they were set aside for a few days. The doses were gradually enlarged, so that at last 4 grains of calomel and 16 grains of Extr. Cicut. were taken every day. The condition of the patient improved gradually during the application; and about the beginning of April she was so far recovered, that instead of not being able to move the jaw nor open her teeth at all, three fingers could now be introduced between her teeth, and she was able to move the jaw in every direction, so as to chew meat and other solid victuals very well. Besides, the induration of the muscles and ligaments had almost entirely disappeared.

" Thus, in the course of four months, her former complaint was entirely removed; when a new swelling of the glands, particularly those of the groins, took place, together with an acrid fluor albus, which however was not of a syphilitic nature, but plainly bore the character of a former latent scrofula. However, this complaint was soon removed by the addition of Resin. Guiac. to the above remedies, and the outward application of lime-water, and she was dismissed perfectly cured."—*Hufeland's Journal.*

MATERIA MEDICA.

III.—M. Dubuc, Governor of the island of Martinique, having transmitted to M. Alibert, principal physician of St. Louis' Hospital, Paris, a quantity of bark, the external characters of which resembled those of *cinchona*, some specimens were given to M. Cadet, who examined them; of which he has published the following account*.

" The specimens do not appear to have been all taken from the same tree. Their general colour is brownish grey; some of the pieces are thin and slightly wrinkled, like the epidermis of Angustura; others are thicker and rugose: while some exactly resemble quilled cinchona, and are here and there studded with whitish dots, similar to those left by lichens upon pale cinchona bark.

" The colour of the powder of these specimens of bark is a deep shade of greyish brown; the taste is considerably more bitter than that of the best cinchonas, but less so than that of Angustura.

" A strong decoction of the bruised bark has a very deep colour, and becomes turbid on cooling. The addition of gelatin to a warm decoction prevents it from becoming turbid, without doubt by augmenting its density. This characteristic is common to this bark and to the *pseudo-Angustura*. This decoction, filtered after being cold, is transparent and always of a deep colour, and tastes at first sweetish, but afterwards extremely bitter. It is copiously precipitated by tartar emetic, but not at all by a solution of glue.

" The aqueous infusion, made in the cold, is affected by gelatin and tartar emetic in the same manner as the decoction. Sulphate of iron throws down in it a greenish black or slate-grey precipitate. The supernatant fluid left upon its precipitate for twenty-four hours, acquires a beautiful green colour.

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* *Journal de Pharmacie,* Nov. 1816, p. 509.

The same phenomena occur on treating the true Angustura in a similar manner. Nitrate of silver forms in it a precipitate of the colour of coffee, with milk in it, which is permanent. Sulphate of copper throws down a deeper coloured precipitate. It is not precipitated by muriatic acid; but the addition of prussiate of lime gives the fluid a beautiful green colour; and it deposits, at the end of twenty-four hours, a slight blue precipitate.

" From these experiments the species of bark under consideration seems to resemble, in some respects, the *pseudo-Angustura*, yet it cannot be regarded as a false Angustura. It is, nevertheless, proper to be cautious in employing it as a medicine, until the character of the tree from which it is procured has been ascertained."

IV.—*Description of a Scirrhous Tumour of the Brain*, by M. Hebreard, one of the Physicians of the Bicetre*.

" *Simonet.*—The individual in whose head this tumour was found, was sixty-three years of age, and a baker. He was sent to the Bicetre from the Hospital *de la Pitié*, where he had been unsuccessfully treated for paralysis, which had insensibly come upon him without any evident cause.

" During seventy-five days that this patient was in the Bicetre, he never quitted his bed, except to be placed in an easy chair. He articulated with difficulty; but nevertheless he was sufficiently understood to convince all who were about him that his mind was not deranged. He could move the lower limbs without pain; and although the upper extremities were more under his controul, yet he could not carry any thing to his mouth. The digestive function however was not impaired, for his bulk, which was considerable when he entered the hospital, increased during the first and second months he was there. At the commencement of the third month, the paralysis having increased so much, the patient lay like an inanimate mass in his bed; gangrenous sores appeared on the sacrum and the trochanters; and he died on the 25th of April without a struggle. He was conscious of his situation until the last moment of his life; and about an hour before he died, remarked to the nurse, that he felt he was dying. *(Je sens que je m'en vas.)*

" *Dissection.* 1°. The body was blackish; and, on the incision of the integuments, poured out a great quantity of black blood, particularly from the head. 2°. The boney cranium and the dura mater presented nothing remarkable. 3°.

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[*] This paper was read before the Society of the Faculty of Medicine of Paris, on the 1st of May last, and published in its bulletin of that month, vide p. 399.

The pia-mater was reddish throughout and a little thickened; and some granulations were apparent on the convex surface of the brain. 4°. The cerebrum and the cerebellum were denser than usual; and this was more remarkable at the cerebral protuberance and the origin of the spinal marrow. 5°. At the plain surface of the left hemisphere between the part which rests on the tentorium of the cerebellum and the fissure of *Silvius*, we observed a projection, which appeared to the touch different from the rest of the cerebral substance; and, after having made an incision through the pia mater and the arachnoid coat, where they covered this projection, we found it was produced by an incysted tumour involved in the medullary substance, which was evidently altered all round the tumour, being softer for a line in thickness, and of the colour of wine lees. 6°. This tumour was the size and form of a hen's egg; its upper surface was unequal, (bosselee), and the under, even; the direction of the larger end was forwards and outwards, and lodged in the medullary substance, to which it slightly adhered; the smaller pointed backwards and inwards, and communicated with the ventricle. 7°. The incision of the tumour displayed the homogeneous brownish aspect of scirrhous tumours; and also their lardy consistence. 8°. The thoracic organs were in a natural state, and the abdominal were covered with much fat.

" *Reflections.* Incysted tumours are not unfrequently met with in the substance of the brain. M. Nysten has lately communicated several interesting cases of that kind to the Society; and it is remarkable, that, as in his cases, my patient experienced a paralysis that gradually increased, but he was not afflicted with convulsions; a difference, not less essential, also existed in the nature of the tumour, which appeared to me to be scirrhous and was enveloped in a cyst."

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I.—SURGICAL.

Extirpation of the Uterus.—Mr. Newnham, of Farnham, has recently extirpated, by ligature, the inverted uterus of a woman at the menstruous age; who appeared to be rapidly sinking, exhausted by suffering and a great discharge. The operation was attended with complete success; and the woman now, nearly six months since, is quite healthy.—Mr. Newnham means to publish the details of a case so interesting to science and creditable to his own talents.

II.—PHARMACY.

Ophthalmia.—The powdered seeds of the Cassia *Absus*, an annual plant which grows in Egypt, has been long employed by the Egyptians, under the name of *chichm*, as a remedy in ophthalmia. Dr. Frank, of Vienna, has confirmed by his experience the efficacy of this remedy, and considers it superior to any colyrium. The powder is prepared by washing the seeds repeatedly in cold water, then drying them in the sun, and, when they are thoroughly dried, powdering them in a marble mortar. The powder must be passed through a fine sieve, then rubbed up with an equal quantity of sugar, and preserved in a well-corked bottle. The proper time for applying the chichm is after the violence of the inflammation is somewhat abated. It is applied in the evening, by laying the patient horizontally and introducing between the eye-lids a small portion of the prepared powder. Its sensible effects are an instantaneous but moderate sensation of heat, and an increased secretion of tears.

Dr. Frank conceives the plant might be cultivated in Europe.

III.—PHYSIOLOGY.

Birth of a Child thirty-six hours after the death of its Mother.—The following is the substance of the deposition of several witnesses before the Coroner of this very extraordinary physiological fact. An inquisition was taken on the body of Hannah Homer, wife of Mr. Homer, of 65, Turnmill Street, Clerkenwell. She was in the eighth month of her pregnancy; and was in good health and spirits on the Saturday night, when she went to bed without any complaint. On Sunday morning between six and seven o'clock she awoke, and complained of the cramp in her legs; but she got better in a few minutes by having them rubbed. At seven o'clock she arose, and was in the act of getting out of bed, when she exclaimed 'Oh! my stomach,' and fell on the bed and expired. Mr. Austin, surgeon of Red Lion Street, came directly and bled her, and other means to recover her were used, but without success. About the middle of the day of Monday the body was seen, and was then undelivered, nor were there any signs of it. Between six and seven o'clock on Monday night, Ann Terry was walking on the side of the bed on which the deceased lay, and observed the body move and the clothes lifted up. She was so terrified that she fell into a chair almost insensible; she was taken out of the room, and told that what she said she saw was only her fancy. No one went to see the deceased until the next morning, when she and another person took the clothes off the deceased, and found she was delivered of a child, which was lying on the right side of her quite dead and cold. On Tuesday the body of the deceased and child were quite black, and so changed, that the features of the face of the former were scarcely distinguishable.

The late Dr. John Clarke, in his lectures on the physiology of the uterus, relates a somewhat similar circumstance; but we do not remember the particulars attending the case.—EDITORS.

Perception of colours in a blind person.—A correspondent informs us, that a lady of the name of Evoy, St. Paul's Church-Yard, Liverpool, has been blind since the 4th of June 1816, arising, as she supposes, from water in the brain. About seven months ago, she perceived she could read by the feel, and even by the feel through a magnifying glass held at about the common focus. She can tell the colour of substances that are put into a glass bottle; and, if it is a mixed colour, can describe the mixture. A piece of cloth or stuff was presented to her; she said it was brown, whilst the person who presented it and the by-standers thought and said it was black; she, however, persisted it was brown, and when it was held horizontally it proved to be brown. If an intervening substance be placed between her hands and face, it diminishes the acuteness of her feeling; because, as she observes, it prevents her breathing upon her fingers. She can tell the time by feeling upon the *glass* of a watch; and one being presented to her, she said she never saw such a watch as that, for it had but one finger; now the minute was over the hour finger, which caused her to imagine it had but one finger.

IV.—MEDICAL STATISTICS.

In the fourth volume of the *Repository*, p. 441, Dr. Burrows published some "*Observations on the Comparative Mortality of Paris and London in* 1813 *and* 1814;" during which latter year the French capital was subjected to many of the casualties attendant on a siege and occupation by foreign troops.

To those who are fond of statistical researches, it cannot fail to be an object of interest to examine and compare the tables of mortality of a city during a year of profound peace, (1816) with those when it was exposed, (1814) to all the calamities of a destructive war.

Review of the Tables of Mortality of Paris, for the year 1816, *as drawn up by the twelve Municipalities.*

The number of deaths in 1816.. ...19,801
———————— 1815......21,549
The diminution in.........1816......———1748.

Domiciliary deaths..... ....12,489; as follows:
Males.............................6,176 } 12,489
Females......... ....6,313 }

There were of bodies deposited in the *Morgue*... 278

And in the different hospitals.. .... 7,312; as follows:
Males...............................3,683 } 7,312
Females............................3,629 }

The number of persons who died of the small pox in 1816...150; as follows:
Males............. ....79 } 150
Females.................................71 }
The number in 1815 was.........190
Decrease............. 40

The *Suicides* during 1816 amounted to 188; as follows:
Males...............................122 } 188
Females.............. .... 66 }
In 1815 the number was only 175.

The births in 1816 were..........22,366; as follows;
Males..............................11,584 } 22,366
Females.... ....10,782 }
The deaths were.........19,801

The births exceed the deaths....... 2,565

There were drowned in 1816...........278; as follows:
Males ....222 } 278*
Females................................. 56 }

Recapitulation of Deaths of the Two Sexes.

	Males.	Females.	Totals.
From a day to 3 months	2,399	1,735	4,134
—— 3 to 6 months	157	129	286†
—— 6 months to a year	277	212	489
—— 1 to 2 years	385	395	780
—— 2 to 3	257	202	459
—— 3 to 4	171	143	314
—— 4 to 5	124	106	230
—— 5 to 6	95	118	213
—— 6 to 7	92	96	188
—— 7 to 8	50	48	98
—— 8 to 9	53	40	93
—— 9 to 10	34	34	68
—— 10 to 15	144	188	332
—— 15 to 20	255	263	518
—— 20 to 25	286	381	667
—— 25 to 30	230	362	592
—— 30 to 35	281	415	696
—— 35 to 40	253	403	656
—— 40 to 45	289	397	686
—— 45 to 50	350	454	804
—— 50 to 55	456	425	881
—— 55 to 60	496	438	934
—— 60 to 65	627	598	1,225
—— 65 to 70	611	586	1,197
—— 70 to 75	537	665	1,202
—— 75 to 80	387	455	842
—— 80 to 85	251	410	661
—— 85 to 90	81	152	233
—— 90 to 95	9	34	43
—— 95 to 100	1	1	2

The particular diseases of which those enumerated died, are not as heretofore given.

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* In a city like Paris, with a river like the Seine, and little navigation, how great a proportion of these 278 should be carried to the account of suicide? In the whole of the port of London in the same year, only 105 were drowned! See further remarks on this interesting subject, *Repository*, vol. iv. p. 456.

† The prodigious difference of mortality of infants from birth to three months, and from three to six months, is truly accounted for by Mr. Barrow in his "*Observations on the Mortality of Infants in Paris;*" *Repository*, vol. v. p. 289.

V.—LITERARY NOTICE.

Dr. Tupper has in the press A Comparative View of the Present State of Medicine in London and Paris; also, An Inquiry into the Doctrine of Gall concerning the Physiology of the Brain and Innate Dispositions.

VI.—MISCELLANEOUS.

Sir James Earle, Master of the Royal College of Surgeons, late Surgeon to St. Bartholomew's Hospital, &c. died on the 22d ult.

Mr. Copeland Hutchison has been elected Surgeon to the Westminster General Dispensary.

A METEOROLOGICAL TABLE,

From the 21st of August to the 20th of September 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles N.W from London.

D.	Barometer. Max.		Barometer. Min.		Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29	73	29	71	60	38		N..	1 Sun..
22	29	77	29	73	69	45		NW.W.	1 Sun..
23	29	66	29	57	67	53	16	W..EbN.	1 3 Cy.. 2 Sun.. 4 Rain
24	29	40	29	15	69	52		E..	1 3 4 Cloudy.. 2 Sun..
25	28	76	28	72	63	48	34	E..ESE..	1 Sh. 2 Sun. 3 Rain...
26	28	79	28	79	68	52	24	EbS..NE.	1 Sun.. 3 Rain..
27	29	24	29	13	65	52	09	NE.	1 Sh. & Sun. 3 Cy..
28	29	35	29	24	69	53	33	NW..	1 Cy.. 2 Sun.. 3 Rain...
29	29	49	29	43	63	50	14	ESE.ENE.	1 Rain.. 3 Cloudy..
30	29	40	29	33	65	52	28	NE.SE..	1 Sun. 2 Cy.. 3 Rain..
31	29	55	29	45	68	47		S..SW...	1 Sun..
1	29	74	29	73	68	50		SW.	1 Sun..
2	29	75	29	60	69	55	02	SW.SE.	1 3 Cy.. 2 Sun.. 4 R.
3	29	63	29	55	72	50	20	SE..SW.	1 Mist... 2 Sun.. 4 R..
4	29	84	29	82	68	45		SW..	1 S.... 2 S.. 3 Cy... 4 Stl...
5	29	86	29	74	60	43		SW..S..	1 Sun...
6	29	80	29	80	67	50		SW.	1 Sun.
7	29	80	29	74	67	52		SW..SE..	1 Sun....
8	29	76	29	70	67	49		SSW..SE..	1 Mist... 2 Sun....
9	29	86	29	82	64	52		NW.NE.	1 Sun, 2 Cloudy...
10	29	76	29	73	61	47		NE.E.	1 Mist...
11	29	73	29	64	68	54		SE..SW.	1 3 4 Cy... 2 Sun..
12	29	66	29	58	67	40	01	SE..SW..	1 Cy.. 2 S.. 3 R. 4 Stl...
13	29	76	29	74	59	38		W..SE..	1 Sun...
14	29	82	29	82	59	46		Vble.	1 Sun..
15	29	84	29	81	69	55	01	ENE.	1 Cloudy... 4 Rain.
16	29	79	29	77	65	56		SE.	1 Mist.... 2 Cloudy...
17	29	77	29	69	62	53		SE..NE.	1 Cy.. 2 Sun.... 4 Mist..
18	29	57	29	53	66	53	21	NE.NW..	1 Cy.. 2 Sun.. 3 Rain..
19	29	64	29	62	59	54	50	NW.	1 Rain.... 3 Cloudy..
20	29	73	29	78	64	50		NW.	1 3 4 Cy... 2 Sun..

The quantity of rain during the month of August was 3 inches and 78-100ths.

The diseases under treatment were Cephalalgia, Cynanche Tonsillaris, Diarrhœa, Dyspepsia, Erysipelas, Febris Catarrhalis, Gastrodynia, Obstipatio, Ophthalmia, Paralysis, Rheumatismus, and Scorbutus.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of AUGUST to the 19th of SEPTEMBER, 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Guage	De Luc's Hygrom. Dry.		De Luc's Hygrom. Damp.		Winds.		Atmo. Variation.		
	20	60	64	57	29^6	29^7				3	3	SW	SW	Fine	—	—
	21	59	65	54	29^6	29^6	.05			3	3	W	N	Fine	—	—
	22	59	65	54	29^6	29^9	.07			2	2	NW	NW	Rain	Clo.	Rain
◑	23	62	64	57	29^9	29^9	.09			2	3	N	NE	Fog	Fine	—
	24	59	62	55	29^7	29^4				4	4	E	E	Rain	Clo.	Fine
	25	57	60	54	29^3	29^2	.06			4	5	SE	S	Clo.	Rain	Fine
	26	57	60	55	29^1	29^1	.08			5	5	SSE	SSW	Clo.	Rain	Fine
	27	57	63	57	29^2	29^4	.12			5	6	S	W	Rain	—	Clo.
	28	59	65	55	29^6	29^7	.15			5	5	SW	S	Fine	Rain	—
	29	59	66	56	29^7	29^7	.08			4	4	W	SW	Clo.	Rain	Fine
	30	61	67	55	29^9	29^8	05			4	4	SW	SSE	Fine	Clo.	Rain
●	31	59	69	53	29^8	29^9	03			4	3	SW	SSW	Fine	—	—
	1	59	65	51	29^9	30^1				3	3	SW	S	Fine	—	—
	2	57	67	59	30	29^9				3	6	ESE	E	Fine	—	—
	3	62	72	60	29^9	29^9				6	6	E	SE	Fine	—	—
	4	63	70	58	30	30^1				5	3	W	W	Fine	—	—
	5	61	69	58	30^1	30^1				1	1	W	W	Fine	—	—
	6	62	70	60	30	29^9			0	1	0	S	SE	Fine	—	—
	7	63	72	59	29^8	29^9		0	0	0	0	NE	E	Fine	—	—
◐	8	60	72	58	29^9	30		3	2			ENE	E	Fine	—	—
	9	61	68	58	30	30				2	1	N	N	Clo.	Fine	—
	10	60	69	57	30	30	.14	0	0	0	0	NE	N	Clo.	Fine	—
	11	61	67	55	30	30				2	2	NE	SE	Clo.	—	—
	12	63	66	57	30	29^9				3	2	W	W	Fog	Fine	—
	13	63	67	59	29^9	29^9	.05			5	5	NE	NE	Fine	—	—
	14	64	68	57	30	30				5	5	N	N	Fine	—	—
	15	62	68	55	30	30				5	5	NE	NE	Fine	—	—
	16	60	65	53	30	30				10	12	NE	NE	Fine	—	—
	17	58	64	55	29^9	29^8				7	5	N	N	Fine	—	—
	18	59	65	57	29^8	29^8	.05			5	5	N	N	Fine	Rain	Fine
○	19	58	62	55	29^8	29^9	.08			3	2	NE	E	Rain	—	Fine

The quantity of Rain fallen in the month of August, is 1 inch and 94-100ths.

BILL OF MORTALITY *from August* 19, *to September* 16, 1817.

		Aug. 26.	*Sept.* 2.	*Sept.* 9.	*Sept.* 16.	
CHRISTENED.	Males	290	254	208	148	
	Females	273	221	206	140	
		563	475	414	288	Total, 1740.
BURIED	Males	166	170	139	126	
	Females	219	186	122	123	
		385	356	261	249	Total, 1251.
OF WHOM HAVE DIED	Under 2 Years.	105	101	58	81	
	Betw. 2 and 5	33	50	20	34	
	5 and 10	18	19	14	13	
	10 and 20	18	11	11	5	
	20 and 30	29	23	18	11	
	30 and 40	36	29	36	22	
	40 and 50	40	34	26	20	
	50 and 60	35	29	24	20	
	60 and 70	35	22	26	17	
	70 and 80	25	22	18	15	
	80 and 90	12	13	10	8	
	90 and 100	2	5	0	3	
SMALL POX		19	17	15	15	Total 66.

A REGISTER OF DISEASES

Between AUGUST 20th, and SEPTEMBER 19th, 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	19		Entrodynia	21	
Abscessio	14		Epilepsia	4	1
Acne	3		Epistaxis	5	
Amenorrhœa	18		Erysipelas	12	
Amentia	1		Erythema *læve*	5	
Anasarca	18	2	——— *nodosum*	1	
Angina Pectoris	1	1	Exostosis	3	
Anorexia	5		Febris *intermittent*	7	
Aphtha *lactentium*	3		—— *catarrhalis*	12	
Apoplexia	3	2	—— *Synocha*	20	
Ascites	10	2	—— *Typhus mitior*	24	2
Asthenia	48		—— *Typhus gravior*	10	4
Asthma	26	1	—— *Synochus*	19	
Atrophia	3		—— *remit. Infant*	22	2
Bronchitis *acuta*	1		Fistula	2	
——— *chronica*	1		Fungus	1	
Bronchocele	1		Furunculus	5	
Calculus	2		Gastritis	3	1
Caligo	1		Gastrodynia	31	
Cancer	3	1	Gonorrhœa	13	
Carbunculus	1		Hæmatemesis	3	
Cardialgia	19		Hæmoptöe	8	2
Carditis	2	1	Hæmorrhois	14	
Catarrhus	61		Hemiplegia	2	1
Cephalalgia	33		Hepatalgia	4	
Cephalæa	8		Hepatitis	16	1
Chlorosis	6		Hernia	5	
Chorea	2		Herpes *Zoster*	3	
Cholera	65	1	——— *circinatus*	2	
Colica	17		——— *labialis*	1	
—— *Pictonum*	5		Hydrarthyrus	1	
—— *calculosa*	1		Hydrocele	2	
Convulsio	7	1	Hydrocephalus	7	5
Coryza	1		Hydrothorax	3	3
Cystitis	2	1	Hypochondriasis	8	
Cynanche *Tonsillaris*	21		Hysteralgia	2	
——— *maligna*	2		Hysteria	20	
——— *Parotidea*	5		Hysteritis	1	
Delirium Tremens	1		Icterus	8	
Diarrhœa	87		Impetigo *figurata*	1	
Dysenteria	19	1	——— *erysipelatodes*	3	
Dyspepsia	57		Ischias	3	
Dyspnœa	9		Ischuria	2	
Dysphagia	4		Lepra	3	
Dystocia	2		Leucorrhœa	19	
Dysuria	4		Lichen *simplex*	4	
Ecthyma	3		Lithiasis	2	
Eczema	2		Lumbago	4	
Eneuresis	2		Mania	5	
Enteritis	5	3	Melancholia	5	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Menorrhagia	27		Psoriasis *guttata*	5	
Miliaria	2		——— *inveterata*	1	
Morbi *Infantiles**	85	4	Purpura *hæmorrhagia*	1	
Morbi *Biliosi*†	64		Pyrosis	5	
Nephralgia	3		Rachitis	2	
Nephritis	2		Rheumatismus *acutus*	38	
Neuralgia	2		——— *chronicus*	53	
Obstipatio	19		Roseola	2	
Odontalgia	16		Rubeola	18	
Opththalmia	30		Scabies	58	
Otalgia	6		Scarlatina *simplex*	6	
Palpitatio	7		——— *anginosa*	4	
Paracusis	2		Scirrhus	2	
Paralysis	8		Scorbutus	1	
Paraplegia	1		Scrofula	23	1
Paronychia	6		Spasmi	5	1
Peripneumonia	4		Splenitis	2	
Peritonitis	7	1	Strictura	6	
Pertussis	21		Strophulus *intertinctus*	3	
Phlegmasia *dolens*	2		——— *confertus*	2	
Phlogosis	9		Sycosis *menti*	1	
Phthisis *Pulmonalis*	23	10	Singultus	1	
Pityriasis	2		Syncope	3	
Plethora	5		Syphilis	17	
Pleuritis	12		Tabes Mesenterica	2	2
Pleurodyne	9		Vaccinia	63	
Pneumonia	14	1	Varicella	14	
Podagra	10		Variola	20	2
Polypus	1		Vermes	38	
Porrigo *larvalis*	2		Vertigo	30	
——— *scutulata*	4		Urticaria *febrilis*	8	
——— *favosa*	3		——— *evanida*	2	
Prolapsus	1				
Prurigo *mitis*	6		Total of Cases	1875	
——— *senilis*	5		Total of Deaths		61

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; † *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

Cholera and *Diarrhœa*, the usual concomitants of the autumnal season, are at present rife; but not in so great a degree as sometimes. *Typhus* also bears a larger proportion to the other diseases in the Register than usual; several of the cases were attended with *petechiæ*; but, happily, the mortality from it does not demand particular notice.

One of the fatal cases of *Apoplexia* was of the serous kind: the patient had, for some time, been in a state of fatuity.

In the fatal case of *Dysenteria*, besides ulcerations of the large and small intestines, a tape-worm, four yards long, was found.

Variola, which has been so long epidemic and fatal, is subsiding; the mortality from it is very much diminished.

Two of the fatal cases of *Hydrocephalus* began with the symptoms of *Phrenitis*, which appeared to be succeeded, on the third day, by effusion, and caused death on the seventh day from the first attack.

A case of *Roseola* accompanied the formation of the pustule after vaccination.

NOTICES OF LECTURES.

Dr. Marcet intends to give a Course of Clinical Lectures at Guy's Hospital during the next Winter.

Mr. Guthrie, Deputy Inspector of Military Hospitals, will commence his Autumn Course of Lectures on Surgery, on Monday the 6th of October, at five minutes past Eight in the Evening, in the Waiting Room of the Royal Westminster Infirmary for Diseases of the Eye, Mary-le-bone Street, Piccadilly. Medical Officers of the Navy, the Army, and the Ordnance, will be admitted gratis, on obtaining a recommendation from the Heads of their respective departments. For particulars, apply at No. 2, Berkeley St. Berkeley Sq.

Mr. J. J. Pettigrew, F.L.S. Surgeon-Extraordinary to their Royal Highnesses the Dukes of Kent and Sussex, will commence his Winter Course of Lectures on Anatomy, Physiology, and Pathology, on the 17th of October, at Eight in the Evening. For particulars, apply to Mr. Pettigrew, Bolt Court, Fleet Street.

Mr. Clarke will begin his Lectures on Midwifery and the Diseases of Women and Children, on Friday, October 10th, at No. 10, Saville Row, Burlington Gardens.

Mr. Gaulter will commence a Course of Lectures on Physiology, at No. 10, Frith Street, Soho, on Thursday, October the 9th, at Eight o'Clock.

Mr. Thomas Bell is appointed to succeed the late Mr. Fox as Lecturer on the Structure and Diseases of the Teeth at Guy's Hospital.

MONTHLY CATALOGUE OF BOOKS.

Observations in Surgery and Morbid Anatomy. By William Wadd, Esq. 4to.

The Trial of Robert Sawle Donnall, Surgeon and Apothecary, late of Falmouth, Cornwall, for the Wilful Murder, by poison, of Mrs. Elizabeth Downing. By Alexander Frazer. 8vo.

Chemical Amusement. By Frederick Accum. 8vo.

The Principles of Diagnosis, &c. By Marshall Hall, M.D. 8vo.

NOTICES TO CORRESPONDENTS.

For want of space, the favours of Mr. Guthrie, Mr. Dickinson, Mr. Blackett, Mr. Hitchin, *&c. were unacknowledged in the last Number.*

The Observations of a Surgeon *upon a part of the* Essay on Diseases resembling the Venereal Disease, *which has occupied a large portion of the pages of the present Volume, we shall defer until the Essay be finished; when of course, like all other papers in the* Repository, *it will be open to fair criticism and discussion.*

Dr. Davis' *Communication came too late for the present, but shall certainly appear in our next Journal.* Mr. Diamond's, Mr. Holbrook's, *and* Mr. Rawlins' *are received.*

The Editors *are concerned to find, that many of the impressions of the Plate of* Dr. Davis' Craniotomy Forceps, *accompanying the last Repository, are so faint, as to give a very imperfect representation of that instrument. The Plate has therefore been re-touched; and a more perfect print will be delivered to every Subscriber, in exchange for his imperfect one, who will apply either at Messrs. Longman and Co.'s or at the Printer's.*

THE
LONDON MEDICAL
REPOSITORY.

No. 47. NOVEMBER 1, 1817. Vol. VIII.

PART I.

ORIGINAL COMMUNICATIONS.

I.

AN ESSAY ON DISEASES
RESEMBLING
THE VENEREAL DISEASE.

BY A PHYSICIAN.

(Concluded from p. 283.)

PART IV.

Of Ulcerations of the Nose and Face which may be mistaken for Syphilitic Affections.

Syphilis having remained in the habit unsubdued, will proceed to attack the nose. The patient will complain of a stuffing and fulness of the nose; a viscid offensive mucus is secreted, sometimes tinged with blood; there is a tenderness of the ossa nasi, and loss of smell. Ulceration follows high up the nostril or on the cartilage, not commonly on the outside. Such a case is called venereal ozœna. The ossa nasi seldom become diseased in this complaint. The disease will, if suffered to proceed, extend to the ossa spongiosa, to the horizontal lamella of the superior maxillary bone, to the vomer, and to the ethmoid bone. The septum nasi will be eaten away, and the alæ nasi sometimes ulcerated.

It is particularly important to decide properly upon the nature of diseases attacking the nose, it being a part where no disease can maintain its ground long without considerable injury, as no portion of the substance of it can be lost without deformity and disfiguration being produced; so that a disease which in the first instance was of comparative insignificance, may become very formidable if allowed to proceed.

Inflammation of the membrane lining the nostril may be produced by common causes, such as exposure to cold, blows, common catarrh, or by the application of irritating substances. Fulness will accompany the inflammation, and it is possible that small ulcerations may form; but the disease being local, it will most probably disappear without doing mischief and without being confounded with any thing of a specific nature. In irritable habits, however, a small ulcer may spread, and being irritated by the finger-nail, it may lay bare the cartilage or possibly expose the bone, and thus lay the foundation of a troublesome malady. Such a case will, however, be known not to be syphilitic by the history of the case, and by the want of other symptoms.

The nose may become the seat of a complaint which may create a great deal of distress and alarm, while in another situation the same affection is disregarded. A pustule, for instance, may attack the cartilage, and by being irritated with the nail, may form a slough so deep, that this, when it separates, shall expose the cartilage, which may scale away, and lay the foundation of a troublesome ulcer, which will most probably be considered as syphilitic or as cancerous.

CASE.

Thomas M—k—m, Esq. a person of a full habit, applied to me in May 1810, having an ulcer on the septum nasi in the left nostril, The sore was deep, with hard, raised, florid edges. The cartilage was exposed, and it afterwards exfoliated throughout its whole extent. The outside of the nose was florid and rather tumefied. He felt no pain in the ulcer. I found that he had, at different periods of his life, been subject to eruptions and tubercles in the face and in other parts of the body. The first attention was attracted to the nose when the complaint was in a state of ulceration, so that its mode of accession could not be made out; but I considered it probable that it might be of the same nature with the eruption to which his face had long been subject. I gave him arsenic internally in the form before mentioned*, and directed him to fumigate the nose with sulphuret of mercury; he continued to take the arsenic for six or seven weeks, after which time, bark was given in decoction. After the plan was first commenced, the progress of the ulcer had been arrested; but the process of healing went on so slowly, that seven or eight months elapsed before the septum was restored to its healthy state. He continued well for a short time, but his general health became soon much impaired from confinement to his room, which was rendered necessary by an accident which he met with in the knee. Soon after this, he complained of pain in the right side of the head, attended with languor and loss of appetite. The bowels were attended to, and bark and arsenic were administered. His head was for a time relieved, but the pain soon returned, attacking the upper part of the nose and forehead. The pain in the nose soon became so great as to cause great alarm in his mind. There was a slight tenderness of the ossa nasi. In a little time I discovered very high up in the left nostril, a large ulcer, deep and florid, shewing a tendency to spread in every direction. He would do nothing for a few days; and when I next saw him the ulcer had increased considerably in size, looked very angry, and was very painful. The pain in the head and in the outside of the nose were very troublesome. I ordered for him as follows:

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* Page 279.

℞ Hydrarg. Muriat. gr. ii.
Solut. Arsenici (Fowler.) ʒiss.
Tinct. Lavend. C. ℥i. f. Solut.
Cujus cap. ♏ xx. ter die ex haust. seq.

℞ Cinchonæ, ʒx.
Rad. Mezer. ʒij.
Ras. Guaiaci lign. ʒvj.
Antimon. Sulphur. ʒx.
Aq. puræ ℔v. coque ad ℔ij. et cola.

℞ Decoct. ut supra ℥iss. f. haustus.

I directed him to continue the fumigation. In a few days the sore wore a more favourable appearance; the mezereon heating his stomach was omitted, and sarsaparilla substituted.

He commenced this plan in the latter end of January 1811. In a few days more the sore was reduced to less than half its original size. The plan was continued with little alteration, and at the end of a few weeks the disease entirely disappeared, and he has ever since been free from eruption. Although this case was not considered as syphilitic, (nor could it be suspected from the high character of the patient,) it still is very possible that it might have been so, had the affection of the nose been preceded by primary symptoms, or been accompanied by sore throat or cutaneous affection. It was by many persons, (not medical men,) thought to be cancerous; but in spite of the clamour of his friends, this gentleman steadily and confidently persevered in the plan which I had prescribed, until the healing of the ulcer put an end to all their apprehensions and to his sufferings. Great light was thrown upon this case by the previous history of the patient's health, and by the knowledge that the forehead, face, and back had been constantly subject to an eruptive affection.

In scrofulous habits there may be pain of the nasal bones, with a discharge of fœtid matter, followed by destruction of the septum nasi; the system exhibiting generally at the same time strong marks of scrofula, which sufficiently attest the nature of the disease. A scrofulous ulcer may be seated externally on the nose, there being present perhaps similar ulcers in the cheeks. These ulcers will have the scrofulous character by which they will be known, as well as by the history of their accession and progress. An indolent superficial sore on the septum nasi, and rawness of the inside of the nostril, may arise without any evident local cause or constitutional disorder, in persons who are subject to soreness of the scalp or to acrid discharge from about the ears. The nose is, in this case, mostly inflamed; the sore being covered with a dark scab. This case is, perhaps, connected frequently with scrofula.

Fulness, pain, with increased secretion from the nose, may proceed from polypus; but an accurate examination will discover the cause of these smptoms, which might at first lead to the suspicion that ozœna was forming.

A long perseverance in the use of mercury may produce disease of the ossa nasi, which not unfrequently become carious. This case will be distinguished from syphilitic ozœna by the knowledge that the disease has come on, after, or during a long mercurial course; and that the bones of the nose are not as usually attacked by syphilis as by other diseases, by the presence of ulcerated gums, or of sores in the mouth, of a superficial, diffused, whitish appearance, and by observing that the affection is aggravated by the continuance of the mercury.

Acne rosacea, or gutta rosea of the nose, consists of red tubercles, together with a shining, uneven, granulated, livid appearance of the end of the nose, which is often much enlarged. It is a chronic affection, and is generally the tell-tale of good living and free drinking, and cannot be mistaken for a syphilitic affection, (even when the tubercles ulcerate), if attention be paid to the history and character of the complaint.

Sometimes a disease appears in one cheek in the form of a flat tubercle of a brown livid colour, unattended with pain, the disease proceeding slowly across the face from one side to the other, taking the nose in its way, ulcerating all before it, and healing in one part while it spreads in another. Sometimes several small tubercles unite. Such a case constitutes lupus. Solitary tubercles of the face may ulcerate, and such ulcers may spread; such have been called noli me tangere, &c.: all these are by Dr. Willan included in the term lupus. There will be little danger of mistaking any of these cases for the effects of syphilis, if attention and observation be employed. The history of their accession will point out their nature. It is possible, however, that those who judge hastily, may condemn a case of this kind. I recollect an interesting case that I met with, where the patient, Sarah Die, had an extensive ulceration of the upper lip, which had destroyed a portion of the lip. The ulcer had no elevation of its edges, but was gradually lost in the sound skin, and it gave but little pain. She said that several men of eminence had seen her, some of whom said the disease was cancerous, while others said it was venereal. The ulcer not answering to the description of that caused by either of these maladies, I inquired accurately into the woman's history, and I found that she had, some time before the attack on the lip, had two tubercles under the left eye, which disappeared spontaneously. I gave her arsenic in the manner before mentioned, which in a few days improved the appearance of the sore. Within three weeks from her first taking it, her face was attacked with erysipelas, and when the tumefaction occasioned by this subsided, her lips appeared quite sound and well.

In elephantiasis, the nose is sometimes destroyed. In one case which Dr. Adams saw at Madeira, the loss of the nose was the only mark of the disease above the waist; but the signs of the disease below this part were sufficiently indicative of its real nature, such as the appearance of the parts of generation, two swellings in front of the thighs, and foul ulcer of the whole legs. But the disease may be so modified as to appear more as a local affection, being confined to the face, nose, or lip; the ulcer produced by the disease in this form, is more likely to be confounded with cancer than with syphilis; it may be traced to small brownish tubercles, which have gradually proceeded to ulceration. The ulcer seldom is attended with much pain; it is slow in its progress, combining as it were (according to the observation of Mr. Pearson), the destructive powers of the cancer with the indolence of scrofula. Sometimes a disease attacks the nose, which although from the history and appearance we do not consider it as venereal, yet still we find some difficulty in giving a name to.

CASE.

Catherine David was said by her medical attendant to be labouring under a cancerous complaint, which was expected to prove shortly fatal. She had just been brought to bed when I was called to see her. I found a large irregular sore occupying the whole of the left side of the nose and part of the left cheek, extending upwards to within one-eighth of an inch of the left eye. The right ala nasi very tumid, red, and painful. The upper lip penetrated by a deep irregular furrow. She complained of great pain, not only of the sore, but of the right ala nasi, in which part she described it as lancinating and severe. She got no sleep; her anxiety and debility were very great. Her account of her case was this: nine years ago she had a kick on the nose from a cow, which occasioned tumefaction and pain. In about a year after, she received a second blow on the same part. In another year, an ulcer appeared in the nose, which discharged a purulent matter and gave great pain; two or three pieces of bone came away. Her throat was sore about this time. Some time after this she had very violent pain in the arms, which yielded to warm applications. About half a year before I saw her, the ulceration appeared on the nose externally, preceded by hardness, tumour, and severe shooting pains. I found that the ulcer had destroyed the septum and part of the pinna nasi. She was a married woman, who had the reputation of having been infected by her husband formerly, and her disease of the nose had been considered as syphilitic. I merely dressed the sore with an ointment composed of hydrargyrus cum sulphure and common cerate, and I gave her an arsenical mixture, of which she only took a *very few doses* in consequence of a nausea which had long troubled her. It was extraordinary that the poor woman experienced almost immediate relief soon after I first dressed her. In less than three weeks the sore had skinned over, the tumour and redness of the ala nasi had subsided, and the pain was gone. She has remained free from disease ever since. Here then is a disease exciting great alarm, and yet disappearing as if by magic; for I can scarcely say that any thing was done by art, although some gave me the unmerited credit of curing a cancer of the face. The ulcer was a spreading one, having its first origin from a blow which produced induration, and it was attended with severe pain. Of course it was not cancer. It could not be considered as syphilitic; and the pain attending it was greater than that accompanying elephantiasis. I have sometimes thought it was possible, that the action that was going on in the uterus might have prevented the healing of the sore, which was easily accomplished after delivery; but this is merely conjecture.

Cancer attacking the nose and the lips may be mistaken for a venereal attack. The preceding induration, the lancinating pain, the progressive destruction caused by the disease, the presence of diseased absorbents in the vicinity, the history of the case, and the absence of other symptoms; all these will attest the character of the disease. Many persons assert, that the upper lip is not attacked by cancer in the first instance: I have seen a case, however, which proved fatal; but the progress of the disease was very slow, and the symptoms comparatively mild. The patient, Edward Lewis, a middle aged man, had, some years before I saw him, had a tumour on the upper lip, which, together with a considerable portion of the lip, was destroyed by caustic. The part healed. About a year before he applied to me the lip became hard, and it shortly after ulcerated. The ulcer spread, attended with shooting pains. The edges of the wound were thick and hard, the whole border of the lip was ulcerated, and a part of the sore extended upwards towards the septum nasi. The lip was by degrees destroyed. He described the sensation constantly as that of a flashing in the face. I did not see him laterly, but I understood that the poor man took to his bed, and gradually sunk and died, with no great increase of the sore or of the pain. He lived about two or three years after I saw him first.

I was from time to time in the habit of seeing a poor miserable old woman, in whom the whole of the upper lip, with the lower part of the alæ and septum nasi, and the teeth and the bone of the upper jaw, were all destroyed—the whole presenting a most horrible sight. The disease was in full progress. The corners of the mouth were obstructed by large pendulous tumours, smooth, and covered with skin. There was no evident ulceration. She had had a blow on the nose from the head of a child sixteen years before I saw her; induration succeeded, and a small tumour appeared on the nose, from the ulceration of which sprang the dreadful malady. She suffered considerable pain, and lingered a very long time.

An abscess of the antrum maxillare or highmorianum may possibly be mistaken for ozœna; discharge from the nose, and uneasiness and pain between the nose and cheek being present. But the seat of the uneasy sensations, the absence of disease in the nose, and of other constitutional symptoms, together with the history of the case, will point out the nature of the affection. In abscess of the frontal sinuses, the pain will be higher up than in ozœna, more resembling head-ache; and if it should proceed from the presence of any living thing, delirium will probably be present.

The nose may be affected by what are termed pseudo-syphilitic diseases; but these cases must be distinguished by the rules already laid down.

Of Ulcerations of the Tongue which may be mistaken for Syphilitic Ulcerations.

A venereal affection of the tongue is a rare and anomalous appearance of that disease. It generally begins in the middle of the tongue in the form of a spot, which is painful, degenerating into an ulcer, which discharges an offensive matter, the edges having, what Mr. Pearson terms, a mulberry appearance. He says he has seen an affection of the tongue where it was the only venereal symptom. It occurs where the disease has existed for several months.

An ulcer of the tongue derived from a tumour may take place in persons who are subject to tubercular eruption.

Mercury will produce very troublesome ulceration of the tongue, chiefly seated on the edges of it; but it is scarcely possible that such a case can be mistaken.

Troublesome ulceration of the tongue may be produced by a jagged tooth, and unless the cause be removed by filing or by extraction, the sore will continue to exist. The cause of such ulceration will be evident.

When the tongue is attacked by cancer, the disease may first appear as a tumour or fungus, or the attention may first be directed to it when in a state of ulceration. In an incipient form of the disease, or in the early stage of the ulcer, its nature may not be immediately detected; but a short time will explain its true character. In an advanced period of the disease, the destruction of the tongue, the affection of the glands of the neck, which have sometimes a stony hardness, together with disease of the parts in the neighbourhood of the malady, as the thyroid gland, the pharynx, &c. will leave no doubt as to the nature of the disease. It may still, however, at an earlier period, be distinguished from a venereal affection by the circumstances and history of the case. Mercury will heal the venereal ulcer while it aggravates the disease, or at least is inefficacious when used in a cancerous affection. We meet with cases which resemble cancerous or venereal affections of the tongue, and which it would be difficult to refer to any particular disease; it is sufficient, however, for us to be able to distinguish such cases from either of those two diseases, and if we are enabled to cure our patient, it is not of much importance what name we give to the complaint.

CASE.

A masculine married woman, about 50, applied to me five years ago. She had in the centre of the tongue a deep irregular ulcer with inflamed edges. She first noticed a tumour in the part five months before. I gave her arsenic, and used local applications for three weeks. The ulcer spread. I then gave her hydrargyrus muriatus in the quantity of $\frac{1}{16}$ gr. three times a day. In a few days I found the ulcer deeper, more painful, much wider, the loss of substance being considerable. I ordered her to take gr. ss. of calomel night and morning. In a fortnight the sore was reduced to one third of its former size, and it was no longer painful. Her gums were slightly affected. She pursued the plan for a short time longer, and got quite well.

There was not the slightest ground for suspecting this case to be venereal. It shews that we should hesitate before we give a disease a name, and that we should try the effects of different remedies before we condemn a case as cancerous. It shews too, that one form of mercury will succeed where another fails. This happens also in treating venereal sores. Calomel internally may cause a sore to heal which resisted mercury when rubbed in by the skin. Since it has been found that an extirpation of a portion of the tongue is not an operation of danger, excision has probably been resorted to in cases which might have been cured by less formidable means; but when we delay the extirpation of a portion of the tongue in the hopes that we may cure the disease in some other way, we must at the same time take care not to let slip the opportunity of removing the disease, by suffering it to proceed beyond the reach of the ligature.

Of the Diseases of Bones which may be mistaken for the Effects of Syphilis.

Enlargement of the periosteum and bones belongs to the second order of secondary symptoms. The bones most liable to be affected in syphilis are those which are hardest in their texture and which lie near the surface, and their cortical part is that part which is attacked. Such bones are the os frontis, the ossa parietalia, ossa palati, the horizontal plate of the maxilla superior, the vomer, the lamella of the ethmoid bone, the lower part of the anterior surface of the tibia. The ossa malæ, ossa nasi, ossa palati, the clavicle, the sternum, the radius, ulna, and fibula are seldom affected; the three last, Mr. Pearson says, only in old persons, or in those who have used mercury unsuccessfully. The bones of the hands and the feet, the ribs and the femur, are very rarely affected with this disease. When the venereal virus attacks the bones, pains like those of rheumatism are felt in the limb or in the neighbourhood of the bone; tenderness of the part succeeds, soon amounting to pain. The pain is of a gnawing, fixed, distressing kind, increased by pressure, and becoming more severe as evening comes on. Mr. Abernethy observes, that it comes on at a progressively later hour as the disease advances. A circumscribed tumour forms, of an indolent appearance, enlarging slowly. Although the swelling may be considerable, it does not follow that the bone must be much enlarged, since a thickening of the periosteum and an imperfect suppuration succeeding to inflammation of that membrane may be the principal cause of the tumour. The matter thus formed is not true pus, but a thin glairy gelatinous fluid. The pain arises chiefly from the distention of the periosteum. The ultimate effect of the disease having attacked the bone, is generally caries. When the disease attacks the skull, the bones become thickened, frequently from a deposition of bony matter into the diplöe of the bones; they become ulcerated externally, the ulcers being very irregular, having more the appearance of the bones being worm-eaten than of the ulcers being produced by the action of absorbent vessels*. Head-ache attends this form of the disease. Sometimes the cranium is affected with ulceration and with protuberances at the same time. The disease may perforate the skull, causing constant pain in the head, delirium and disorder of the senses, and spasm.

A node may occur during the primary symptoms of syphilis, being caused by mercury. Where mercury has been used in large quantities, nodes will frequently appear on the bones of the head and limbs, attended with severe pains. Such cases may be considered very commonly as syphilitic. In all cases of doubt, consider the node as not being the effect of the venereal virus. If it have come on where much mercury has been used, sufficient to eradicate preceding symptoms, or if it come on during a course of mercury, you would not consider it as syphilitic. There is seldom any necessity for coming speedily to a decision. We may first try what other remedies will do, and we can at last but have recourse to mercury. The same observations will apply to caries; recollecting, that a caries of the bones of the nose, of the palate, and of the unguis, is more frequently produced by mercury than by syphilis.

Scrofula frequently attacks the bones, affecting them with enlargement and caries; the latter sometimes succeeding to the former, and sometimes occurring as the primary affection. Scrofula generally attacks the cancelli of bones, so that the disease may have extended a considerable way and have made great progress before any symptoms appear externally. Scrofulous enlargements on bones are more diffused, more gradual in their progress, attended with less acute and more deep seated pain, and lead to more extensive suppuration than venereal enlargements of the bones. The disease, when no primary external enlargement appears, is more obscure; it is attended with acute pains throughout the whole bone, which at the latter stage of the disease becomes tumefied, and at last, becoming carious, gives passage to the confined matter. The bones in scrofula have a deficiency of phosphate of lime which renders them brittle, particularly the long bones. There generally will be marks of scrofula in the system, which, together with the history of the case and the want of venereal symptoms, will distinguish scrofulous affections of the bones from venereal affection; such as the common scrofulous appearance of the person, general languor, and diseased secretion.

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* Baillie's *Engravings of Morbid Anatomy.*

An inflammation of the tibia producing enlargement and consequent suppuration is not an uncommon termination of fever. Children and young persons are frequently affected with tenderness and inflammation of the integuments of the tibia, which disappears either spontaneously or after gentle purgation.

An enlargement of the tibia, or any other bone, may be the effect of fracture or of blows; it is often connected with disorder of the digestive organs.

By a little attention and a little patience the nature of all these affections will be made out.

It is, says Dr. Adams, universally admitted, that Sibbens never attacks the bones but by spreading from the soft parts.

When the yaws are imperfectly cured by mercury, nodes and caries may ensue. Here the history of the case must point out the nature of the affection.

If a syphilitic node remain after a full, complete, and judicious course of mercury, it is to be considered as a simple enlargement, and no longer as a specific affection.

Lastly, if a node disappears in one part of a bone and appears in another part, such an enlargement is not to be considered as syphilitic.

Pseudo-syphilitic nodes have much more of the inflammatory character than syphilitic nodes*.

Of Pains which may be mistaken for Syphilitic Pains.

Venereal pains affect muscular fibres, aponeurotic expansions, and articular ligaments, generally aggravated at night.

You cannot always determine the nature of pain in the limbs. I think that pain in the limbs is an attendant frequently on gonorrhoea; I have at least seen it connected with that affection, where there appeared no evident cause of pain. Persons who are under the influence of mercury, often acquire pains from exposure to cold; and mercury will induce pain in the head and limbs without any cold being applied. The pain may be what is called rheumatic. But we are too apt to call all pains rheumatic; the fact is, that we know nothing of the immediate cause of pains in the muscles and limbs. How often do we see pains brought on by checking a cutaneous affection; and relieved by the appearance of the eruption, whether it be made to appear by medicine internally, by stimulants externally, or by the efforts of the constitution, and whether the eruption appear in that part where the pain was situated, or in another; for instance, a man may be disabled from walking by a violent pain in one thigh; he rubs some stimulating application, such as turpentine or sulphuric acid in that thigh, and an eruption shall break out immediately on the other thigh, or over the whole body, and relieve the pain. I have seen this occur where the patient was subject to a cutaneous affection. The subject is interesting and worth pursuing, but I am straying from my tract.

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* Carmichael.

Venereal pains attack the bones, generally speaking, and the shoulders and arms. Rheumatism attacks the joints, and the soft parts.

Mercurial pains will be known by their coming on during, or immediately after, a course of mercury; not being ushered in with the general febrile indisposition which ushers in the secondary symptoms of syphilis, and not being situated perhaps in the same parts as preceding syphilitic pains.

When pains in the limbs are of doubtful origin we must attend to the history of the case; if they are syphilitic they will be relieved by mercury; and, if there be no strong contra-indication, we may try what small doses of that mineral will do, after the common remedies of warm-bathing and anodyne diaphoretics have failed; or we must wait until some new symptom, coupled with the pains, leaves us no longer in doubt as to the nature of the complaint.

Condylomata, &c.

Hemorrhoidal tumours are the only malady likely to be mistaken for venereal excrescences about the anus; but an accurate examination will ascertain this cause of swelling.

Ulceration of the Uterus.

Venereal ulceration of the uterus is a very rare disease, described by Mr. Pearson. The symptoms are, great heat, and pungent darting pains about the uterus; great pain during coition, and a flow of blood frequently after the act. It has the power of infecting men with chancres. On examination the uterus is found rather enlarged, and small, even, smooth, superficial ulcers near the os uteri, hot and extremely tender to the touch. The disease may continue in this state, Mr. Pearson says, many months, without producing secondary symptoms; but the health gradually declines, and the patient sometimes becomes hectical.

The disease which will probably be confounded with this complaint is cancer of the uterus; from which it will be distinguished by the womb being moveable, not much enlarged, by there being no unevenness of the os uteri, no fungus, the pain not constant, no disorder of the system, or sense of weight in the part.

There are many other ways in which syphilis, if suffered to remain long in the habit, may affect the patient; such affections are rare, but it may be expected that I should at least notice them. Loss of sight, of hearing, and of voice, hectic fever, atrophy, and a state resembling phthisis, have been the consequences of the disease, and these have been relieved by mercury. A paralytic affection, and an ague of a quartan type, have also been mentioned among the sequelæ of syphilis, which nothing but mercury could relieve. It is sufficient to enumerate these possible effects of syphilis. They may be confounded with similar affections produced by other causes; but it is not probable that similar diseased states, not arising from syphilis, will be mistaken for venereal affections.

FINIS.

II.

On the Craniotomy Forceps of Dr. Davis, *in Reply to Mr.* Rawlins *of Oxford.* By David D. Davis, M.D. Physician to the Queen's Lying-in Hospital, to the Lying-in Charity, &c. &c.

I beg to acknowledge my obligations for the repeated and extended notices which have been taken of my Craniotomy Forceps in the *London Medical Repository**, and more especially for the honour of the favourable opinion of me, as expressed in the last number, (September,) in reference to the letter of "the venerable accoucheur" of Oxford. I am unwilling, however, that the kind apology of the Editors for me should remain my only shield against the effects of Mr. Rawlins' unqualified and unfounded counter pretensions.

It does not often happen that useful inventions are left unmolested by attempts of envious or interested men to disparage their merits; and among such attempts the most frequent are those, like the present, which have for their object the subversion or vitiation of the claim of an Inventor to the credit of originality. In being made the object of a public attack of this kind, I might indeed feel, that my accuser has placed me in the society of some of the greatest benefactors to mankind: but I do not suppose that any privilege which might be presumed to attach to such a class of persons, would be considered as forming a sufficient excuse to me, for not accepting the high toned and most spirited challenge of my veteran assailant upon this occasion. I beg to state, that I have an extraordinary dislike for combats of this kind; but, I feel that I must meet this practised champion*, for two reasons:—and indeed they are no other than the motives which usually actuate men upon such occasions; viz. first, to shew my courage—and I rather think that I feel less afraid than most persons do, who go out in defence of their wounded honour; and, secondly, to prove the rectitude of my cause; which I trust I shall be able to establish incontrovertibly upon the basis of truth and candour. I beg however to declare, that I do not mean to charge more than once; the occasion in my opinion not requiring a waste of ammunition. On the other hand, I do not intend to fire in the air; and, if my antagonist should be left dead, or dangerously wounded, on the ground, it will be the obvious consequence of his own presumption, as indeed, is common in such cases; and I shall not affect to feel any compunctious qualms of conscience upon the subject.

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* *Repository*, vol. viii. No. 43, 44, 45.

Εἶκε γέρον, προθύρου, μὴ δὴ τάχα καὶ ποδὸς ἕλκῃ.

"So they hanged Haman on the gallows that he had prepared for Mordecai."

The operation of craniotomy is required to be performed when the fœtal head is too large to be expelled through the natural passages by the parturient efforts of the uterus; or when, in the absence of such efforts, delivery cannot be effected by any other means compatible with the security of the mother's life. In its application to the dead fœtus, and perhaps in some other circumstances of extreme difficulty, this mode of delivery, in common with general embryotomy, was unquestionably known to the antients†. But we are indebted to times comparatively modern, and chiefly to the obstetric practitioners of this country for the developement of those rational and fixed principles, founded equally on an enlarged humanity and on accurate knowledge of the subject, which are now received as constituting its moral sanctions and professional obligations. Craniotomy, as the term imports, is simply the operation by which an aperture is made into the cranium. Its intention is to reduce the bulk of the fœtal head by the consequent escape or removal either of a part or of the whole of its contents. In some cases, this aperture, made sufficiently large to admit of the spontaneous discharge of a considerable quantity of brain, is all that is necessary to be done, in order to ensure a speedy and a prosperous delivery; which, indeed, is then effected by the unassisted efforts of the uterus. In many others, however, in order to accomplish our purpose, we are obliged to apply more or less force of extraction, either as a substitute for the exhausted action of the womb, or as an auxiliary to that power when it might be imprudent to entrust the result to its doubtful or protracted efforts. It may therefore be asserted that in all more difficult cases of labour of this class, the application of extracting force to finish the delivery is an essential counterpart to the operation of craniotomy. For affording the assistance here presumed necessary, a great variety of instruments have been devised and recommended. In order, however, to enable such of your readers, as may not be familiar with subjects of this kind, to appreciate the precise amount of merit actually due to recent inventors, it may be upon the whole useful, if not quite necessary, to take a cursory and compressed view of the inventions of former times, which they pretend to have improved upon, or superseded.

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* See Rawlins' *Dissertation*—versus Dr. Osborne, p. 11, et sequent.

† Hipp. Op. Cura. Fœsii. tom. i. p. 618. Phil. apud Ætium. tom. iv. serm. 4, cap. 23.

The instruments hitherto proposed or recommended for extracting the dead fœtus, or for completing the delivery when the head has been already opened, are reducible into three kinds or classes, which, to avoid tediousness, it will be convenient to consider collectively. We have them therefore all included under the genera—1st. of hooks—2nd. of extractors upon the principle of the tire-tête of Mauriceau; (those of Amand Waldgrave[a] and Levret[b] not belonging to our subject)—and, 3rd. of forceps.

The use of instruments of both the first and last genera is probably coeval with the practice of instrumental midwifery itself. Let us first consider the claims of the former. Instruments of the hook class have been distinctly recommended by Hippocrates[c], by Celsus[d], and by Ætius[e]. Hippocrates states the necessity in some instances of making use of two instruments of this kind, the one to antagonize the other; thus clearly anticipating the double crotchets of modern times. Albucasis[f], the last of the Arabian writers, gives figures of the obstetric instruments known and used in his time, and amongst them we have two specimens of hooks. Ambrose Parè[a], the father of modern surgery, gives figures of instruments of the same kind. Gregoire[b], Peu, Maynard, and almost all the authors who have written upon the subject during the last and preceding centuries, might be added to the list of improvers or approvers of instruments of this class. But, notwithstanding the high antiquity and almost universal adoption of embryulcia and its instruments under various modifications, I have always felt the strongest objection to their use, as being unsafe in certain circumstances in the most cautious hands, and as being extremely dangerous in those of rash, awkward, or inexperienced practitioners. The blunt-hook, which I believe is a modern invention, if used carefully and properly, may indeed be admitted as an exception to this remark: but its powers are very limited, especially in head presentations requiring the operation of craniotomy; not to add, that this less dangerous form of embryulcia has been attended in many instances with deplorable consequences.

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[a] Vide Joan. Carol. Voigt. *Dissert. Chirurg.* Haller *Disputat. Chirurg.* tom. iii. p. 472.

[b] Levret *sur l'Art. des Accouchemens.*

[c] Hippocrat. loc. citat.

[d] Cels. Op. l. vii. cap. 29.

[e] Ætii Op. loc. citat.

[f] Spacch. Gynæc in Albucasi, cap. lxxvii. p. 446.

Under the second genus of embryotomy extractors to which I have referred, we may enumerate at least four varieties: viz. the tire-tête of Mauriceau[c]; the extracting wings appended by Burton to Ould's terebra occulta[d]; M. Donavia's simple contrivance of a little wooden cylinder and riband, as given to the public by Baudelocque[e]; and a modification of the same contrivance in a more operose form in the lately introduced extractor of Professor Assalini[f]. The common and characteristic principle of all these instruments is, that they are exclusively applied to the interior surface of the fœtal skull transversely across the aperture through which they have been introduced. To the part of the mechanism so applied there is attached at right angles a handle, made of some accessible or convenient material, by which the operator is instructed to draw down in the direction of the axis of the pelvis. To this class of instruments there are also substantial objections, affecting equally their power and their safety, and affording, unquestionably, a very ample and sufficient apology for the attempt to supply the profession with better.

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[a] *Les Œuvres d'*Ambroise Parè, edit. a Lyon, 1641, Fol. p. 608-9.

[b] *Voigt. loc. citat.*

[c] *Traité des Maladies des Femmes Grosses,* tom. i. liv. 2. p. 367.

[d] Burton's *Midwifery,* p. 230. plate 16.

[e] Baudelocque's *System of Midwifery, Heath's Translation,* vol. iii. p. 167.

[f] *Trans. Society of Arts for* 1816.

But I must hasten to the consideration of our third and last genus of embryotomy extractors: viz., the genus forceps, in which are merged the claims of Mr. Rawlins and other modern inventors. The use of instruments having the forceps form of purchase is most assuredly no modern invention, and much less a novelty of recent date. To illustrate this remark, however, and to enable the reader to distinguish intelligently between facts and pretensions, I shall take the liberty once more of subdividing this genus, which is a numerous one, into two or three species or varieties.

Under the first subdivision, I shall place the species compressing or crushing forceps. It appears probable, perhaps not absolutely certain, that Hippocrates alludes to instruments of this kind when he advises the head to be seized *τῶ ϖιεστρῶ*[a]. I am disposed to believe, that the misdachs of Albucasis, and more especially the larger forceps, were also, at least in part, intended to diminish the bulk of the fœtal head by the effect of compression. I am aware of Smellie's opinion on this subject[b]; but I cannot reconcile it to the barbarous appearance of the instruments themselves, as exhibited in the figures given of them by Spachius[c]. As to another instrument of the same author, the forfex dentatus, of which we have also an engraving in Spachius, it is expressly told, that it was to be used for the purpose of breaking down or crushing the head of the fœtus[d]. This same power appears to have been possessed by the pieds de griffons of Ambrose Parè[e], which was, however, more particularly intended by its inventor for the envelopement and extraction of the child's head when separated from its trunk and left in utero. I need not add, that compressing forceps might be, and it is probable generally were, used for the additional object of extraction.

Again. Embryotomy forceps admit of another and very important subdivision, founded upon the different modes in which the opposite parts or halves of the instrument are connected together or adjusted for their common object of extraction. The different claws of Ambrose Parè's pieds de griffons are fastened together and impelled to act by an apparatus similar to that of the once celebrated specula matricis. The structure of Fried's forceps[f] partakes considerably of the same sort of contrivance. All other instruments properly denominated craniotomy forceps that I have ever seen or heard of are connected together by some sort of joint, situated in or about the centre of the instrument, and common to each half of it. But this connection may be effected either by a rivet joint which is only moveable on its own axis, or by some other mode of junction admitting of the separation at pleasure of the two blades It is probable that all the instruments of this kind known to the antients were fastened together upon the principle of our rivet joint. Here also are to be classed all the forceps of this tribe best known in modern times. viz. those of Puisseau, Schurer*, Lyon, and the lithotomy forceps of La Motte†. Of these, the power is nearly equal; all of them, with the exception of La Motte's, being armed with long transfixing teeth. The instrument of Dr. Lyon's (formerly of Edinburgh) is best known in this country. To the instrument makers here it is better known under the designation of Haighton's tooth-forceps; because, I apprehend, that Dr. Haighton is in the habit of recommending it in his estimable lectures upon midwifery. In common with those of Puisseau and Schurer, it is really a very useful and convenient instrument, and, like them, well adapted for the extraction of the fœtus in cases of moderate confinement or distortion. But it unfortunately happens, that a great majority of difficulties of this kind depend upon want of sufficient space at the superior aperture of the pelvis, where the application of rivet-jointed forceps might be attended with much difficulty and inconvenience, and where generally, and in all cases of great confinement, the purchase would of necessity be too limited to admit of a sufficiently powerful exertion of extracting force. This remark, I am very certain, is perfectly intelligible to such of my readers as are practically acquainted with the difficulties to which it refers. For want of power to introduce the blades singly, so as to enable the operator to command an ample purchase above the confinement or distortion occasioning the arrest, the profession was still under the necessity, in the more difficult cases of embryotomy, to have recourse to its blunt-hooks and crotchets. But such a power has for many years been accessible to it; perhaps, like some objects of sensation, too near the organ to excite a distinct impression; it having been presented to us in a great variety of forms in those instruments which are most familiar to us: viz. the modern obstetric forceps for extracting the living child. But the merit, as in this instance, of transferring the application of a principle from one piece of mechanism to another is not to be undervalued on account of its obviousness or simplicity; and it must attach, however much or little it may be, to the person who was first to make the transfer.

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[a] *Hip. Loc. Citat.*—See also his Commentator, M. C. Rhemuet. *Comment.* vi. *Spacch. Gynæs.* p. 683.

[b] Smellie's *Preface.*

[c] Albucasis *apud* Spacchium, p. 446.

[d] *Idem*, p. 447.

[e] Ambr. Par. p. 608. *et sequent.*

[f] Voigt. *de Cap. Infant. Abrupt.* § xl. p. 469.

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* *Disput. Chirurg. loc. citat.*

† La Motte. *Obs.* pp. 247, 250, 403, 404.

Now, unfortunately for the claims of Mr. Rawlins, I have it in my power to prove, that the merit of it, so confidently arrogated by him, does not in fact belong to him; or, in other words, that "he was" *not* "the real first inventor of," what he, I think rather improperly, calls "the reflected forceps."

About two years ago, I communicated to my instrument-maker, Mr. Ewing of Drury Lane, an idea for the construction of a craniotomy extractor, capable of being applied by opposite and moveable surfaces to opposite surfaces of the fœtal skull, upon the principle of two parallel blades adapted to one common handle. But this is not necessarily a part of our present subject. Some time afterwards, with the view of adding to my collection of lecture or shew instruments, I sought the opportunity of seeing those of some of my friends; and among the antiquated curiosities of that kind belonging to my friend and colleague, Mr. Charles Clarke, I found a rusty, clumsy, complicated-looking, old instrument, having essentially the character of forceps with parallel blades and a moveable joint. The joint was an imperfect specimen of Giffard's, rendered heavy and inconvenient by an auxiliary screw apparatus. The convex surface of the internal blade was armed with long teeth, which, upon being separated from its antagonist external blade, came to be fully exposed. The handle of the internal blade was produced into an inconvenient blunt-hook, and the appearance of the instrument altogether was such as to excite feelings not very uncongenial with those which might be expected to accompany its use. I, however, recognized in its properties, provided its obvious and capital faults could be remedied, the substratum of an useful instrument, superior, indeed, both as to power and principle, to my own extractor. It possessed the property distinctive of our second subdivision: viz. that of forceps parallel at the blades and separable at a common and moveable joint. Now it appears to me probable, that this was the first instrument of the kind that was ever made. I regret that I have not been able to trace its history. I have, however, the authority of Mr. Clarke for stating, that it has been in his collection ever since he can remember, and certainly prior to the date of Mr. Rawlins' publication. It is distinguished from all preceding instruments having parallel blades, by its adoption of Giffard's joint. This new application of the loose joint constituted, indeed, its only novelty; the teeth, the parallelism, and the curve to answer to the curve of the sacrum, being known before, and applied with considerable effect in the forceps of Schurer. But be it remembered, however, that in consequence of this one step in improvement upon its predecessors, it became, to all intents and purposes, an example of a pair of forceps upon the principle of those which Mr. Rawlins has since designated the reflected-forceps.

This analysis, while it exhibits in a striking point of view the tardy progress of improvement and the doubtful value of each presumed advantage gained in this department of our art, is manifestly subversive of the pretensions and fatal to the claims of the Oxford accoucheur.

But, it may be asked, whether, having thus so completely defeated my competitor, I have not at the same time been committing an act of felo de se upon myself? If I had been the sort of person that Mr. Rawlins took me for, or rather wished to represent me: if I had borrowed the principle of Mr. Clarke's instrument, a principle, however, well known as applied to the common obstetric forceps, without reference to the source whence it was more immediately taken; there might, indeed, be some ground for such a suspicion. But what is the fact? I have reason to believe, that Mr. Rawlins was informed by Mr. Aikin, the secretary to the Society of Arts, some time *before* the publication of his letter in the *Repository*, that several instruments, shewing the nature and progress of my improvement, were exhibited by me to the committee of mechanics of the said society, before they came to the adjudication of a premium for my specific improvement upon them. Among the instruments so exhibited, was one made upon the model of Mr. Clarke's, the first constructed specimen, as I conceive, of a pair of forceps, having parallel blades and a moveable joint, and very superior, notwithstanding its faults, to the more modern forceps of Mr. Rawlins. This fact, I apprehend, will be considered a sufficient protection to my character against the imputation of dishonour, attempted to be attached to it by that gentleman. I did not, indeed, make a similar presentment of the reflected-forceps, for a reason which I trust will be deemed perfectly satisfactory: viz. that I had never seen nor heard of them. I certainly knew that Mr. Rawlins had written a tract upon the properties of the obstetric forceps, having seen his name in medical catalogues as the author of a dissertation on that subject. I have now to regret that I had not been induced to read it; and I would observe, that from the improper use of the partitive article in the running title of the dissertation, I was not likely to look into it for information upon the subject of embryotomy. Medical authors are so numerous and the productions of the majority of them are so worthless, that I am under the necessity of being very select in my choice of books for my own reading. Moreover, it may be somewhat habitual with me to be rather shy with strangers, more especially if they have not the good luck to be pretty well recommended to me. In the case of Mr. Rawlins' dissertation, I was unfortunately supplied with a motive for the full exercise of my constitutional reserve. In a copy of manuscript lectures upon midwifery, which were delivered nearly twenty years ago by a teacher and practitioner of his art of the first eminence, I had read the following passage: "Since the invention of these," (Johnson's forceps), "Mr. Rawlins of Oxford has written a philippic against the double-curved forceps, and recommended straight ones of his own invention, but which in reality were made and used eighty years ago." For the authenticity of this passage, I beg to refer to Mr. Overend, an ingenious surgeon and a very experienced practitioner in midwifery at Sheffield, to whose kindness I am indebted for the present use of it. I here quote it as an apology to Mr. Rawlins for my seeming neglect of his essay. As a further excuse, perhaps not a very valid one, I would beg to state, that in having omitted to acquaint myself with the contents of Mr. Rawlins' tract, I have sinned in very respectable company; all my obstetric friends whom I have spoken to upon the subject having been equally guilty. I am, indeed, disposed to believe, that there may not be a single pair, or but a single pair, of the reflected-forceps to be met with in the whole town.

As to Dr. Mulder's pleasant compliments to our author, more gratifying, it would appear, from having been presented to him in barbarous Latin, they are so carefully expressed and so provokingly qualified, that, in my opinion, they have a very similar power to that of the negative quantities in Algebra*. I should also observe, that, had the approbation of this book-making foreigner been really worth boasting of, it ought to have had reference to the subject under consideration; whereas, on the contrary, he does not say a single word either as to the use or merits of the reflected forceps. But why has this invention of Mr. Rawlins been treated with so much neglect? Either the glimmer of the new light was so feeble as not to be seen, or the refulgence of the meteor was so glaring, and its transit so sudden and rapid, as to have paralysed the faculties of those whom it came to benefit!

This leads me to solicit attention to the properties which are peculiar to my craniotomy forceps, which have already procured for them the honour of the distinction alluded to in Mr.

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* Vide *Hist. Lit. et Critic.* Auct. Johan. Mulder, p. 162.

Rawlins' letter, and which, I am satisfied, will have the effect ultimately of ensuring for them a place amongst the obstetric instruments of all intelligent practitioners in the kingdom. It has been already remarked that craniotomy forceps, having fast joints, have generally been armed with sharp transfixing teeth. In the first effort of improvement upon them, as in the case of the instrument in Mr. Clarke's collection, it was natural to retain the method of purchase at the grasping surfaces previously known, without immediately considering how far it might be convenient or safe to adopt it in forceps having a moveable joint: or it might be retained, partly from want of thought to anticipate objections to it, and partly from want of ability to provide a safer substitute—the ingenuity of the inventor having possibly been already exhausted. Without, however, thinking it necessary to settle this point, I would assume it as a fact, that any instrument having a given number of long and sharply-pointed teeth, projecting at right angles and without protection from one of its surfaces, could not be introduced into the vagina, carried up four or five inches above the external orifice, as in some cases might be required, and then withdrawn or adjusted at pleasure, without the risk of doing mischief. Such was the instrument in Mr. Clarke's collection, which he, and probably all his predecessors in the same school, had been in the habit of exhibiting to their pupils, as a piece of ingenious but cruel curiosity, for the last thirty or forty years. I consider the peculiar structure of its grasping surfaces, now adverted to, as its principal fault, and what probably had the effect for so long a period of preventing its admission into obstetric practice. In this application of Giffard's lock, the inventor failed to reconcile the safety of the old instrument with the improved power of the new. That desideratum was therefore left for future attainment. I am happy in the belief that it has been completely effected in the contrivance for protecting the teeth of the external blade peculiar to my instrument.

In the adoption of this contrivance I am not aware that I have been anticipated by any other person, nor has the principle of it been applied, as far as I know, to any other piece of mechanism that has ever existed. As to its merits, I have made no exorbitant pretensions. The simplicity of the idea was such as to require no efforts of profound thinking or elaborate combinations to arrive at it. I acknowledge, however, that it did not occur to me till after the failure of other expedients to attain the same object; and, after all, I feel that I am more indebted for the suggestion to frequently repeated demands upon my attention to the subject, than to the possession of any peculiar aptitude of mind for mechanical improvements.

Having said thus much, I may be permitted to offer it to the acceptance of my brethren, as an instrument in which the requisite properties of ample power, perfect safety, and great facility of application, are more effectually combined than in any other form of craniotomy extractor that I am acquainted with.

> ———" *Si quid novisti rectius istis,*
> *Candidus imperti; si non, his utere mecum.*"

As to the reflected forceps of Mr. Rawlins, which he has so artfully attempted to identify with mine, they are not worth their price, whatever that may be; and as an improvement upon those of Schurer or Lyon, they are actually worth nothing.

> " *E meglio esser testa di Luccio che coda di Storione.*"

In very easy cases indeed, depending upon a moderate diminution only of the usual dimensions of the pelvis, where the short diameter of the superior aperture might still amount to about two inches and a half or upwards, they might possibly, with a little trouble and repetition of attempt, enable the operator to effect his object. But in many such cases the natural forceps appended to the human hand, the fingers and thumb, aided by the efforts of the uterus, and the effect of a little waiting, would generally answer every purpose. It has been my higher aim to meet the greatest difficulties of the art, compatible with the safe possibility of delivery by the natural passages. For the relief of cases of great distortion, such as was probably that to which Mr. Rawlins has made allusion in page 35 of his Dissertation, I take upon me to assert, that the reflected forceps are not possessed of sufficient power. I ground my assertion—1st, upon my general knowledge of difficulties of this kind; and I would here observe that my official engagements are such as to afford me more opportunities of seeing cases of this description in one or two years, than it is probable he can have had during the whole of his long and active professional life*: and, 2dly, upon the fact, that, during my progressive improvement of my own forceps, the use of much better and more powerful instruments than Mr. Rawlins' repeatedly disappointed my hopes. Without disparagement to the one, or the concession of much merit to the other, it may be freely admitted, that the Oxonian instrument may have some properties in common with mine. The same thing may indeed be said of the blacksmith's pincers, mentioned by Burton. They have, it is true, two handles in common: so had those of Hippocrates. They have two blades in common: so had those of Albucasis. Their blades are alike parallel and curved: so were those of Schurer. They are alike moveable at the joint: but this is a property which it has been proved belonged to an instrument of much earlier date than either. The great and incomparable superiority of my instrument to that of Mr. Rawlins' consists in the method peculiar to mine for ensuring a safe and tenacious purchase: in this consists the differential quality. A general resemblance cannot be admitted as constituting identity of character. Veri-similitude is often like truth: the moon has some properties in common with the sun; and Plato's unfeathered cock was promoted, by the definition of its master, to a very near resemblance with Plato himself. A craniotomy extractor without power, or with only a very limited degree of power, is a sort of absurdity. It does not perhaps want *the* one thing needful, but certainly *a* one thing most needful. Without this essential property it can be considered only as an imposing semblance of what it pretends to be; as essentially imperfect in its nature as a watch would be without a spring, an eye without an optic nerve, a jest without wit, or a man without a soul. Such is truly the character of the reflected forceps of Mr. Rawlins.

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* See p. 81 and 82 of the Dissertation, where the author states, that he has attended upward of five thousand labours.

I have to apologise for the length of this communication. It will occupy much more space in this valuable miscellany than I had intended; but I have wished to put my readers in full possession of the facts of the case: I am not conscious of having made a single remark, or having deduced one inference not warranted by the facts advanced. I therefore do not anticipate any necessity for a renewal of the subject.

III.

Cases of Hernia Cerebri, with Remarks. By RICHARD MOYLE, Jun. Penzance, Member of the Royal College of Surgeons, London.

THERE are few parts of surgery in which such opposite modes of treatment are recommended as in fractures of the skull; and it is evident, that, notwithstanding all the facts which have been accumulated on this subject, it is still a desideratum to draw the line of practice within much narrower limits than it is at present: for whilst some practitioners urge the necessity of applying the trephine, although no bad symptoms be present, others trust to the lancet and purgatives, and delay the operation until the appearance of those symptoms which, in their opinion, can alone justify its use. Since the days of Pott, the trephine has been less frequently used; the general practice rather coinciding with that of his successor, Mr. Abernethy, and few modern surgeons thinking "that perforation is absolutely necessary in seven cases out of ten of simple *undepressed* fractures of the skull*."

The same diversity of opinion that existed with respect to the immediate treatment of the injury, extends to some of its consequences; as is but too clearly exemplified in referring to those authors who have written on fungus, or *hernia cerebri*. If the remarks here offered be correct, this is a very appropriate term, as it really implies a tumour formed by the *protrusion* of some portion of the *substance of the brain;* and the disease can exist only when, with the loss of part of the skull, the continuity of the dura mater is destroyed; either by the edges of a depressed bone, by some foreign substance being driven forcibly through it at the time of the accident, or by subsequent ulceration. The date of the appearance of the tumour will be found to correspond with one or other of these circumstances: while the increase is connected with the increased action of the cerebral arteries, which, from their very delicate structure, easily yield to any extraordinary impetus; when that uniform support the other parts of the brain receive from the skull and dura mater is destroyed by a partial loss of both.

The tumour does not necessarily depend on any ruptured vessels of the brain, but may be occasioned merely by their dilatation, owing to their debilitated state, and to the increased action of the larger arteries at the basis of the skull; the throbbing of which may be sensibly felt at the denuded part through the whole substance of the brain. The pia mater, being deprived of its usual coverings, and unable alone and unsupported to maintain its position against the increased pulsations, gradually yields to the expansive force from within, and, with the subjacent portion of brain, is protruded by degrees, and thus the hernia is formed.

In those cases in which the pia mater is lacerated, the denuded brain is pushed through the aperture, and on the moderate or increased action of the arteries, connected with the pia mater being entire or injured, depends in some measure the slow or more rapid growth of the tumour. It was from this pulsatory motion that some of the older surgeons were induced to consider this disease aneurism. In the usual acceptation of the word they were wrong; yet, without doing any great violence to terms, some of the vessels of the brain may be considered nearly in an aneurismal state.

Mr. Abernethy's opinion of the disease being produced by

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* Pott, p. 130.

"an effusion of blood into the substance of the brain;" may be sometimes correct; but in by far the greater number of cases no such occurrence takes place, nor is his mode of treatment, of "covering the tumour with some mild dressing," and "carefully avoiding all pressure," sufficient, except in very mild cases. Founding his practice on the theory of a ruptured blood-vessel, he advises (p. 61), that "if the tumour continues to increase, we have reason to suspect that the coagulum, from want of room to protrude, is enlarged internally; or that by plugging up the orifice in the bone, it prevents the escape of some fluid collected within the cranium; the obvious mode of relief here appears to be to enlarge the opening in the bone in proportion to the extent and increase of the tumour:" a dangerous, and frequently an useless, operation.

Mr. C. Bell states, that this disease sometimes arises "after a venereal caries of the skull, where it is natural to suppose there was no previous injury of the brain;" shewing that it may be produced without the bursting of a vessel. It shews also, that hernia may be formed whenever the cerebrum is unprotected, without any injury or much increased action of the arteries of the brain; unless, indeed, we suppose their action to be increased by the irritation occasioned by the exfoliation of the bone. This author calls it fungus, but thinks it an organised tumour; Mr. Abernethy thinks it not organised, but coagulated blood.

We are sometimes told of the operation of the trephine occasioning this disease by wounding the dura mater; but surely such a circumstance rarely if ever happens. Who operated more frequently than Pott? and yet it is not a little singular that he does not seem to have once met with a case of hernia cerebri. A century ago, in the trepanning days of Heister, perhaps it might have happened oftener; for, in speaking of the use of the trepan, he says, "it is extremely difficult, if not *impossible*, for you to take out a piece of the cranium by this instrument without injuring the subjacent dura mater*."

Mr. Hey, in his Observations on Surgery, has related two cases that are particularly instructive, although he has not drawn any practical conclusions from them himself; as his attention was chiefly directed to the introduction of his circular saw in the room of the trephine in depressed fractures of the skull. He says, "a fungus about the size of a nutmeg arose from the brain, and had a strong pulsation. I made no pressure on the fungus, but only applied mild dressings, generally dry lint; at the end of three weeks the fungus was reduced nearly to a level with the rest of the wound, which then healed quickly." In the 2nd, "an oblong fungus arose through the aperture in the dura mater; but with simple dressings, without pressure, the *fungus retired as the cicatrization advanced*, and the boy got well."

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* Heister, translation, p. 379.

These were both undoubtedly herniæ cerebri, although of a mild kind. In the first case, it is not clear whether it was reduced by sloughing, or by the growth and pressure of the granulations; but in the second, we have an instance of the natural return of the hernia by the gradual pressure of the newly formed cicatrix: a valuable case, as it proves not only the organization of the tumour, but its being part of the brain; for we can scarcely think the boy would get well if the tumour that retired was coagulum.

The case that more particularly led to the present remarks was one that lately occurred, in which there was a very extensive fracture with depression, and a portion of the cranium driven through the dura mater. After the operation of the trephine, the difference of the pulsation, when the fingers were applied on the dura mater and on the pia mater, was too sensible not to be noticed; being on the first indistinct, and on the other strong and bounding. From this lacerated opening a hernia gradually protruded, and at the tenth day from the accident it was about the size of a pigeon's egg. The appearance of this tumour gave rise to a number of unpleasant anticipations, and my hopes of a favourable result in a case that, independent of this tumour, had not an alarming symptom, were on the decline.

I well recollected the fatal result of a similar case, in which nothing but lenient measures were adopted; but the tumour continued to increase, until it reached the size of an orange, and the patient, after languishing some weeks, died of convulsions. In another case, it was removed by the knife; but the termination was equally fatal. The object of the operation was to expose "the ruptured blood-vessel;" but no such cause of the disease could be found, and the boy was nearly dying under our hands from a profuse hæmorrhage that was poured out from the mouths of many divided arteries in the cortical and medullary substance of the brain, to which, from their delicate structure, no ligatures could be applied.

One cannot but be struck with the jarring opinions advanced by different authors respecting tumours arising from the brain. Some, as we have already noticed, contending that they are organized; others, that they are merely coagulated blood.

This confusion has arisen from their applying indiscriminately the same terms to diseases that widely differ, both in their nature and mode of treatment. It is essential, therefore, that they be distinguished.

As the terms *fungus* and *hernia* cerebri are familiar to us, they may still be retained.

The term **Fungus Cerebri** may be applied to those *unorganized* tumours that arise from the brain; consisting of coagulated blood, of a fibrous texture, of very rapid growth, seldom appearing before the *tenth day*, accompanied with *comatose* symptoms, and generally proving fatal. Mr. Abernethy's two cases, Nos. 15 and 16, may be quoted as examples of this affection.

Hernia Cerebri is not only an *organized* tumour, but is a protrusion of part of the brain. It generally appears in a *few days* after the accident, frequently before the fifth; bleeds freely on being touched; has a very strong pulsation; is of slower growth, and not so dangerous as fungus. Neither is it attended with *coma*. Of such are Hey's cases, which he calls fungi.

It will be proper to mention the best method of preventing the protrusion of the hernia, before proceeding to detail the treatment.

In cases of injury of the head, where there has been a loss of bone, the divided portion of scalp should be laid down on the dura mater, without any dressing intervening; but when there is much extravasation between the dura mater and the skull, it must be left to the discretion of the surgeon to decide how far it would be right to attempt to procure adhesion without leaving at least some channel for the discharge to escape. In **all** cases, in order to prevent the protrusion of a hernia, it is necessary to give the brain that *uniform support* which it had been deprived of by the loss of bone. As we all feel an antipathy to the word pressure, when talking of the treatment of injuries of the head, it may not be amiss to explain what is meant. If, after the operation of the trephine, the surgeon were to place any firm unyielding substance within the fractured edges of the bones and bind it down firmly, he might as well have spared himself the trouble and his patient the danger of the operation; for, although he might prevent a hernia, his patient would still labour under symptoms of compressed brain; but if this substance be of sufficient span to rest on two or three parts of the sound undressed bone, no pressure that he could apply would affect the brain. By this remark, however, it is not meant to imply that any violent pressure is necessary; it will be merely sufficient, after the adhesive straps and dressings are on, to apply a piece of tin plate over them, so hollowed as to adapt itself to the head, a considerable part of which it should embrace, and it may be tied moderately firm with straps under the chin, or round the head. Occasional bleedings from the arm, purgatives, low diet, saline mixtures with digitalis should be given, and every thing be avoided that can tend to excite vomiting; while the head and shoulders be kept elevated.

As FUNGUS CEREBRI is occasioned by the giving way of some blood-vessel, no method is so likely to hinder such an event from occurring, as by lowering the circulation by repeated bleedings, and by giving support to the unprotected brain; for it is easy to conceive, that a vessel may be seriously injured and yet recover its tone by this treatment, that would burst if left unsupported to the increased pulsation of the larger arteries. But, although this treatment is proper before the *fungus* makes its appearance, yet it would be *highly injurious* afterwards; and as these measures tend only to prevent the occurrence of such diseases, we are next to consider the method of cure.

In HERNIA CEREBRI, we are to be guided by the size and appearance of the tumour. If it be small, and the granulated surface of the pia mater has a healthy aspect, we are to endeavour gradually to reduce it, by keeping the patient with his head and shoulders much elevated; by opening the jugular vein, and dividing, if necessary, the strictured part of the dura mater with the probe-pointed bistoury; and then by applying gentle pressure at first, and increasing it by degrees. I recollect very well in Eddy's case, about to be detailed, that on pressing the hernia with one hand for some time, and then applying the fingers of the other to his wrist, to ascertain whether I could detect any difference in the pulse, that the tumour was lessened; but, unfortunately, the idea of drawing any practical fact from this circumstance did not occur at the time, or I think the application of the ligature might have been avoided. How often blood-letting is to be repeated, or how long this pressure is to be continued, and to what extent, can be determined only by the result; for it must be recollected, that the effect of pressure in this instance is very different from what would follow a depressed portion of skull. In one case, the brain is reduced within a smaller compass than is natural, to the evident derangement of all the animal functions; in the other, from the want of support, and by the increased action of the blood-vessels, the delicate substance of the brain expands, and occupies a larger space than it did before, and forms that disease, which the support of the displaced bone would have prevented, and which it is now our object to cure.

If, notwithstanding all our efforts to reduce the hernia, it should still continue to protrude, or shew any disposition to slough, it becomes necessary to remove it; and by firm com-presses to prevent any further protrusion. The pia mater, all round the base of the tumour, should be divided with the knife before the ligature is applied, that as little of that membrane as possible may be included in it. Thus the dangerous hæmorrhage occasioned by removing the tumour with the knife would be avoided; and the inflammatory symptoms that might supervene on a ligature on the pia mater be lessened.

In our endeavour then to cure this disease, we are closely to imitate Nature; and natural cures seem to be effected in two ways; first, by compress; second, by ligature.

First.—By the growth of the granulations from the scalp acting as a gentle compress, and giving support to the denuded portion of brain. The hernia "retiring as the cicatrization advances."

Second.—By the stricture of the dura mater obstructing the circulation, and thus acting as a ligature; the tumour sloughing and falling off by degrees. Whether this portion of brain is ever removed, or its place supplied by the expansion of the other parts, is a curious question for physiologists to determine.

The first case that gave rise to the foregoing remarks occurred on the 27th of March 1816.

Case I.

Samuel Eddy, aged twenty years, a miner in the parish of St. Just, was carelessly riding on the arms of a capstan, whilst a heavy weight was lowering down into a mine. After a short time, the capstan went round with unusual velocity; he became giddy and fell. On falling, he was struck with one of the arms, knocked with great violence against a wall, and taken up apparently lifeless. I saw him in a few hours afterwards, and found all the scalp covering the os occipitis turned back on his neck, with a considerable portion of the pericranium detached; there was no appearance of any injury of the skull; the scalp was replaced, and a few ligatures applied. He was sensible at times, and, frequently putting his hand to his head, complained of pain there, and entreated me to leave him that he might sleep, and then he should be better. He vomited a great deal; his eyes were not very sensible to light; the pulse 74; and he complained of being cold, and he frequently shivered. On laying open a small wound on the os frontis, in which there was much extravasated blood, I discovered a considerable fracture, extending in one direction across the right parietal bone, nearly to the os occipitis, with the fractured edges of the bone, separated to one-eighth of an inch, down under the temporal muscle and forward to the orbit, and in the midst of these a depressed portion of bone. The pericranium was detached to a great extent, and there was extravasated blood on the dura mater, which was punctured by the depressed bone.

The trephine was applied twice, and I regretted that I had not taken Heys' saw with me. After the bone was elevated, the parts were covered with simple dressings, *but without any particular support to the denuded portion of brain.* He lost a great deal of blood before and during the operation, from the division of the temporal artery; and no means were taken to suppress it.

2nd day. I found him more sensible. He vomited on being moved, and brought up a solution of magnes. sulph. that had been given to him. The pulse was 90.

3rd. He had passed a restless night: there was much pain in his head, and the pulse was stronger. I took away ℥xvi. of blood.

4th. He was in less pain, and had passed a quiet night. The bowels were not open; I therefore gave him some extract. colocynth. C. which he could swallow with difficulty. I now observed rather a rising of the brain, where the dura mater had been punctured, and the pulsation was very evident in this part.

5th. The patient passed a tolerable night; was sensible, and the pulse 96. His bowels not being sufficiently opened, I ordered an enema. The hernia was more evident; it bled on appling the sponge to it. It was certainly covered by the pia mater; I applied dry lint to it; the vomiting had ceased; the dura mater had recovered its situation, the extravasated blood being removed. He was faint on being taken out of bed to go to stool.

6th. The pulse 84, and soft; I gave him infus. sennæ with magnes. sulph. The hernia was increased, and bled freely on being touched; the bowels were opened twice, for which he got out of bed himself, but was exhausted by the exertion. The wounds discharged freely.

7th. The pulse 88, and soft. The hernia increased; he is quite sensible, and there are no symptoms of coma.

8th. Pulse 88.

9th. Pulse 84.

10th. Pulse 80.

11th. Pulse 80, and soft. The bowels lax; and he is going on well, except that the hernia continues to increase. It was larger than a pigeon's egg, and the pulsation in it very strong. I confess my ideas of the nature of the tumour were at this time very confused; I had no conception that it was a protrusion of the brain, or I think there would have been no difficulty in reducing it. Being anxious to get rid of it, as I considered it the greatest impediment to the healing of the wound, I applied a ligature, as I dreaded the hæmorrhage that I had seen occasioned by the knife.

12th. The pulse 84, and rather harder; he felt pricking and darting in his head, and a throbbing in the tumour; but passed a good night. The senses are perfect; the wounds more sensible, and had rather a glassy appearance. The bowels are not so open.

13th. The pulse 74, and soft; the patient was very sensible of the throbbing in the tumour from the time the ligature was applied. The bowels were regular; I tightened the ligature so as to cut off the hernia, excepting at one small shred that still held it, and then divided this with an abscess lancet. On examining the tumour, I found the ligature still adhering to a membranous substance; which proved to be part of the pia mater, that had dipped down between the convolutions of the brain; I could easily turn it back with the probe. It was at this moment that I first felt convinced of the nature of the disease.

The throbbing ceased on the removal of the ligature, and the man felt very well, and was able to get out of bed without assistance. The fracture that extended towards the os-occipitis, was filled up with granulations; and the surface of the brain from which the hernia had been removed, was dotted with specks of blood from the divided vessels. I applied a large piece of cork, hollowed out a little, (being the only substance at hand,) and bound it down firmly, letting it rest on the sound part of the cranium, with some dry lint under it.

14th. The pulse was 78. He felt the pulsation from the time the wound was dressed yesterday; the bowels are regular; he was able to get out of bed, his appetite is good; the hernia is not protruding; I re-applied the compress; he sleeps well; there was a good deal of discharge from the wounds, but the patient complained of the back part of his head being very uneasy.

15th. Pulse 80, and soft. He smiled to day when I came. I applied adhesive straps and a tin plate over his head, and tied it firmly down.

16th, 17th, 18th. He was just the same. The pulse 72. I laid open the scalp of the occipital bone, and gave vent to a good deal of pus. The part had become exquisitely painful. He does not feel any pulsation. The hernia is not protruding.

19th, 20th, 21st, 22nd. Was going on very well. He sat up to day, moved about the room, and looked out of window.

23rd. He was not seen to day, as he was so well yesterday.

24th. He complained of great prostration of strength, was low spirited, and had some rigours. The wounds looked very well; there was not the least appearance of hernia, the spot being covered with healthy granulations; but he could not bear the light, and complained of difficulty in opening his mouth. The pulse was 80 and weak.

℞ Decoct. Cinchonæ, f℥xii.
Tinct. ejusdem, f℥i.
Sp. Ammon. Arom. fʒiij. ft. Mist. cujus capt.
coch. iii. ampla tertiâ quâque horâ.

I hoped the rigors and stiffness of his jaw proceeded from cold, not wishing to class them amongst the "mala signa" of Celsus,

"Maxillarum atque cervicis rigor."

25th. I found him better; the pulse was firmer, and the rigors not so frequent. I observed, that, notwithstanding the extensive injury of the cranium, and the separation of the dura mater, and the pericranium to a considerable extent, only a small part of the outer table would exfoliate.

26th. The pulse was 80. The spasms were much stronger, and I now perceived unequivocal symptoms of tetanus, accompanied with profuse sweats and great weakness.

27th. The pulse was 90. The patient had a violent spasm whilst the wound was dressing, and threw himself back on the bed quite rigid; the spasms returning every three or four minutes. It is unnecessary to copy every particular from the notes that were taken down each day; it will be sufficient to state, that the pulse got up to 120, the spasm became more violent, and the man was completely rigid at times. His skin became very hot and dry, although he lay quite naked under the window. He took considerable quantities of tinct. opii. without any effect; at one time fʒiss at a dose. The granulations became quite flat, and the brain much sunk; but the part from which the hernia had been removed was the lowest. The senses were perfect.

On the thirty-third day there was a discharge of pus from the brain, and when the spasms came on, it started out from a little hole in the direction of the fracture towards the ear.

On the 6th of May he died, being the fortieth day from the accident, and the thirtieth from the ligature being applied.

His friends would not consent to his head being opened; but the parts were examined superficially, without any thing particular being observed, except the abscess in the brain, which I think may be fairly considered the cause of his death, and not the hernia cerebri. We have many instances on record where the symptoms have been very similar without any hernia; for instance, in Pott's Works, Case XII, p. 105, where the patient died on the thirtieth day from the accident. He was convulsed in all his limbs; had locked jaw and abscess in the brain; and that matter should form after the brain has sustained such evident injury, is not to be wondered at, when we see that it sometimes follows an injury of the scalp, without the skull being hurt. (Abernethy, Case IX. fol. 27.)

CASE II.

The next case that I shall notice, will be one that occurred in my father's practice, nearly thirty years ago; but the subject of it is still alive. It is not only remarkable for the hernia cerebri, but as being one of the first in which the practice of removing a considerable portion of scalp was discontinued in this part of the country; and by which circumstance perhaps the patient's life was preserved.

"James Neluddra, aged about ten years, son of Mr. John Neluddra of Marazvons, was, on the 15th of March 1788, thrown from a horse with great violence against the pavement, and taken up quite senseless, and in a comatose state, with frequent vomiting. On examining his head, no wound appeared; but a considerable tumour of the scalp was found, which extended over the left parietal bone; and, on dividing the scalp, a quantity of blood mixed with brain, flowed freely from the incision; which was continued to the lower part of the parietal bone, from which the scalp was completely separated. On examining the skull, a fracture was discovered the whole length of the parietal bone. At the upper part there was a depression, through which the brain was discharged at every pulsation; and a triangular portion of the skull, about the size of a shilling, was found to have penetrated the dura and pia mater. After the detached bone was removed by the forceps, the flow of brain was greatly increased. The scalp was divided along the course of the fracture, but no part of it removed. The wound was dressed with dry lint and the scalp brought over it, which served as a compress to prevent the further effusion of the brain. The discharge of cerebrum continued for three or four days, and the patient remained in the same senseless state as when he was taken up from the pavement, with a general paralysis of the whole body for *twenty-three days*, when his senses returned, and the paralysis gradually disappeared.

"No inflammatory symptoms took place; but, about the seventh day, a fungous tumour appeared from the wounded part of the meninges which still kept open, and in a day or two pushed through the aperture in the cranium to the size of a small pullet's egg. It had a regular pulsation. Compressions of lint were applied to keep it within the skull without effect; but by a *continued pressure* with the finger it was discovered, that the whole tumour *could be replaced within the cranium*, although on removing the pressure it re-assumed its usual size. The patient, when he became sensible, did not complain of any particular sensation during the time the compression was making, which was very effectually done by a piece of flexible tin-plate, that extended across the parietal bones, and was secured by ligatures under the chin.

"As the discharge from the wound was but little, and no unpleasant symptoms appearing to arise from the pressure, the tin plate was not removed for two or three days; when the tumour was found to be much diminished. The compression was afterwards increased by the addition of several pieces of lint. This plan being pursued for several weeks, the hernia was effectually got under, and the wound completely cicatrized about the 21st of July. No convulsions appeared at any stage of the illness. The young man, after the accident, enjoyed his senses as perfectly as before, and he is alive at this time, twenty-nine years since it happened, without experiencing any complaint arising from the injury done to the brain."

CASE III.

Was that of a miner, who was hurt in Chacewater mine, in the parish of Kenwyn; and a considerable portion of the *left* parietal bone was driven into the substance of the brain. "The poor fellow was so terribly mutilated, that I had not the least idea of his living many hours. Being from home when I was called to him, and having no forceps, I was obliged to introduce my finger two inches under the cranium in order to get at the detached piece. To my great surprise, the next morning I found the man alive and sensible; and, after a *few days*, the wounds put on a kindly appearance, except a considerable hernia cerebri, which protruded in consequence of the increased action of the arteries of the brain. Very gentle pressure, scarcely any more than to prevent its further protrusion, was the only means resorted to. After some little time, a sloughing came on, and at the end of about six weeks the wound was completely healed. His general health was apparently good; but very soon after the wound was healed, he became paralytic on the *right* side; and about eight weeks after the accident, as he was sitting up in bed, and taking his breakfast as usual, he complained at once of a violent pain in his head, and expired in a very short time. As I could not obtain the consent of his friends to open his head, the cause of his death remains a matter of conjecture. There had been no symptoms of matter forming. Might it not have been from over-distension of those vessels which were weakened by the accident; or from the giving way of some vessel, and thus occasioning apoplexy?" The above is an extract of a letter from a friend of mine who attended this man, dated 13th of September 1816.

CASE IV.

Occurred in this neighbourhood a few years ago. I saw the lad who was the subject of it, a month since, and on inquiry about the case, I was obligingly furnished with the following particulars by Dr. Penneck, who attended him.

Oliver Bodinar, eight years of age, fell on the 13th of October 1809, over the cliff at Newlyn, on some pointed rocks on the beach; the perpendicular height of the cliff was twenty-four feet.

He was comatose, and had all the symptoms denoting compression of the brain. There was a small wound of the scalp, which, on being enlarged, exposed a fracture on the left side of the os frontis, with a small triangular piece of the cranium driven in on the brain, some portion of which exuded from the wound. He was trephined, and the bone elevated. The stupor went off gradually, and the next day he was more sensible. He was bled, and purged repeatedly. The scalp was brought over the denuded brain, and kept in sitû by adhesive straps; but as a great deal of tension came on, they were loosened, and on the *third day* a hernia cerebri appeared, which gradually increased to the size of half an egg. It was unattended with coma; it bled on being touched, and had a strong pulsation. The wounds were now dressed superficially; but as the inflammatory symptoms subsided, the flaps were again brought forward, and retained by straps of adhesive plaister, firmly applied. The hernia retired by degrees as the wound cicatrized; but there was a fulness in the part for some time after it was healed, which was reduced at the end of three months; but even after this, some small exfoliation of bone came away. The boy enjoys good health at present, but no bone has been reproduced.

CASE V.

A son of Joseph Lukey, of the parish of Perran-Uthnoe, about eight years of age, received a violent blow on his head from the kick of a horse, on the 24th of April 1813. The flow of blood was great, with portions of the cerebrum mixed with it. On enlarging the wound, a considerable part of both the parietal bones was found to be depressed; the boy was insensible and comatose, with frequent vomiting. The depressed parts were removed by means of the forceps and levator, when a large wound of the membranes appeared, through which the brain issued at every pulsation. On the next and following days he was more sensible and able to speak. About the sixth day a tumour arose through the wound in the dura and pia mater, and was attended with convulsions. Compressions of different kinds were applied without success; and therefore on the eleventh day the tumour was removed by the knife. The hæmorrhage was so profuse as nearly to prove fatal immediately after the operation; and he died in two days afterwards.

In this and the second case, the hernia appeared on the sixth and seventh days; but there was a discharge of brain in each, which retarded its appearance. This, and the following case, have been alluded to in the former part of this paper.

CASE VI.

A son of Jervis Shug, of St. Ives, aged eleven years, received a violent blow on his head by the fall of a stone from the roof of a house, on the 23rd of March 1808. On examination a considerable wound was discovered on the scalp, covering the right parietal bone, which being laid bare by the division of the integuments, a very extensive irregular fracture, with great depression, appeared in view. The depressed part was elevated without the aid of the trephine, and several detached pieces of bone were removed, by which a large aperture in the membranes was made, and through which the brain flowed freely. The boy was comatose for some time after the depressed pieces were elevated, when his senses were imperfectly restored. For four or five days portions of the brain continued to be discharged; but, independent of this, his symptoms were more favourable, and continued to be so till about the tenth day, when convulsions took place on the *left* side of his body; and a fungous tumour arose through the meninges, which in a *few* days grew to a considerable size. I cannot charge my memory by saying positively, whether symptoms of coma came on on the first appearance of the tumour, but they certainly were present afterwards. Caustic was applied to the protruded part, and pressure was continued for some time; but all proved ineffectual: he lingered with frequent and violent convulsions until the 28th of April, when he expired in a fit.

I considered this to have been a case of fungus cerebri, that ought to have been removed by the knife. Caustics are highly improper in all cases, either of fungus or hernia.

Whenever hernia cerebri supervenes to an injury of the skull, it undoubtedly adds very considerably to the danger of the case; yet, in attending to this formidable disease, we must not overlook the most injured state of the brain, and its investing membranes: nor must we attribute the death of our patient *solely* to this cause, as perhaps the event would frequently prove fatal, even although no such disease existed.

AUTHENTICATED CASES, OBSERVATIONS, AND DISSECTIONS.

LV.—*A Case of Cephalalgia.*

A MARINE officer, twenty-seven years of age, who had served actively in a hot climate during the last eight years, had long complained of head-ache and general indisposition. When he reached England (about Christmas last), he had constant nausea and frequent vomiting of every kind of food. A thickening of the pericranium had existed while he was in India, which had been reduced by leeches and blisters; it was still however perceptible, but was removed by a repetition of the same means.

The patient had never had syphilis in any form. The head was considered as the seat of the mischief. Abstractions of blood, by leeches and cupping, were employed very frequently; large blisters were applied to different parts of the parietal, temporal, and occipital bones, in succession, as the situation of the pain dictated, and they were kept open by the unguentum. cantharidis.

For a long time he was rather improving; but about five weeks before his death, a numbness, chiefly of the right hand, arm, and leg, came on; which never proceeded to complete paralysis; but the original malady was obviously gaining ground from that time, and the patient died in a fainting fit in the night.

The alvine secretions were carefully attended to during the whole illness (since his return to England), and the stools were of the natural appearance.

Examination post mortem.—The dura mater, where it covered the cerebellum at its posterior and inferior part, was thickened and converted into a substance resembling cartilage; which diseased state had communicated itself to that part of the cerebellum lying in close contact with it, and extended considerably into its substance. The other parts of the cerebellum were softer than usual; being pulpy and shewing marks of disorganization. The indurated state had extended into the theca vertebralis, as far as the finger could reach. The cerebrum was rather softer than a healthy brain thirty-four hours after death; the dura mater was healthy; some water was found in the ventricles; the pineal gland was ossified at its anterior part; that is, distinct particles of bone were detected in it. The arachnoid membrane, in various parts, shewed signs of previous inflammation, being thickened and discoloured in such places, particularly where it covered the optic nerves at their point of decussation.

The thoracic and abdominal viscera were not examined, as no particular derangement of their functions had appeared.

LVI.—*A Case of Podagra.*

This occurred in a stout and otherwise healthy woman, and exhibited every symptom characteristic of the disease. She was treated by scarifications of the inflamed spot, and the continued application of evaporating lotions. The bowels were freely and repeatedly purged by means of calomel and saline purges; and as the symptoms declined, which happened in a very few days, a weak decoction of yellow bark, with carbonate of soda, was administered three times a day. The Reporter has never seen a case of acute podagra yield in so short a space of time; the patient being able to walk with ease in five days. —T.

LVII.—*Case of Pleuritis, attended with Abscesses within the Pericardium.*

A case of pleuritis terminated fatally in three days from its commencement. Upon examination *post mortem*, there were found, besides the inflammation of the pleura, a considerable thickening of that membrane, and an effusion of serum and coagulable lymph into the left cavity of the chest. The heart was also very much enlarged, and adhered to the pericardium. When the pericardium was cut through, two abscesses were seen, one near the origin of the large vessels of the heart, which was about half the size of another situated on the left side of the heart, containing nearly four ounces of scrofulous pus. The pericardium over these abscesses was about one-eighth of an inch thick. The heart itself was healthy.

LVIII.—*Case of Ascites, terminating in Paralysis and Apoplexy.*

Mr. Bishop, a farmer, aged fifty-two, applied to the Reporter on the 28th of June last. His abdomen was exceedingly distended with water, and the whole of the lower extremities were anasarcous. His breathing was short from the distension of the abdominal cavity, but no symptoms of effusion into the chest were present. The collections of water had formed within a few weeks, and his health had for some time been disordered. The secretion of urine was scanty. The urine coagulated on being heated. There was some tenderness of the right side extending to the epigastrium. He was directed to take pills composed of digitalis, squill, mercurial pill, and gamboge, and a mixture of large doses of acetate of potash, with nitre, vinegar of colchicum, and æther. During the three succeeding days, the discharge of watery fluid by the bowels was extremely great; several gallons were voided, a quantity of phlegm and bile were thrown off by vomiting. During this time the squill was omitted, and the vehicle of the mixture was infusion of calumbo. At the end of this time the whole of the anasarcous deposit was removed, and the ascites had disappeared. On the 2nd of July, at one in the morning, he had an attack, the consequence of which was a considerable stiffness of the right arm and leg, with a difficulty of moving them, and an inability to finish any sentence or answer, the hesitation in the articulation being connected with a forgetfulness of the subject of conversation. The pulse was neither languid nor slow. There was no pain; no difficulty of breathing; nor defect of sight nor smell; neither was there any difficulty in forcing out the tongue; and the pupil was unaltered. The action by the bowels ceased on the accession of this attack. Was it from a cause like that producing syncope on the sudden removal of water by paracentesis? Why should the ventricles of the brain be supposed to have been distended by water just at the moment that the system was emptied of its dropsical accumulations? The following was prescribed:

℞ Tinct. Benzoes, C. ʒiii.
Mucil. Acaciæ, ʒvi.
Sp. Æther, Comp. ℥sa.
Sp. Ammon. C. ʒiii.
Mist. Camp. ℥iv. Misce.
Cap. ℥i. 2da quaque hora.

Next day he was better. The hesitation in the speech was gone; and the stiffness and inability to move abated. He made more urine, which deposited a yellow copious sediment; and the urine coagulated on being heated. The Reporter ordered the tinct. benzoes, with ether, gentian, camphor, and aloetic tincture. July 4th. He had passed a good night; pulse 82; urine as yesterday; no evacuation since the attack on the 2nd.

℞ Potassæ Acetat. ʒiii.
Potassæ Nitrat. ʒii.
Decoct. Aloes, C. ʒv.
Infus. gentianæ Comp. ℥ivss.
Sp. Ether, C. ʒss. Misce.
Cap. ℥i. 2da. quaque hora.

Having had no evacuation, he took, also, a rhubarb draught. On the morning following he had a loose motion of a good colour. The abdomen became a little distended in the last three days; his appetite was bad, but the tongue very clean; and there was no prominent symptom but debility. He continued in this state until the 6th of July. The Reporter saw him at eleven o'clock on that day, when he remained without any particular change. He ate his dinner at one o'clock; at two, asked for his medicine; when his wife who had gone out of the room for a tea-cup, on her return found him black in the face and dead.

PART II.

ANALYTICAL REVIEW.

I.

A Sequel to an Essay on the Yellow Fever; principally intended to prove, by incontestable facts and important documents, that the Fever called Bulam or Pestilential has no existence as a Distinct or a Contagious Disease. By Edward Nathaniel Bancroft, M.D. Fellow of the Royal College of Physicians, Physician to the Army, and late Physician to St. George's Hospital. 8vo. pp. 487. London, 1817. Callow.

If this work were a mere answer to Dr. Pym and Sir James Fellowes, and the continuation of a controversy, which those who wish well to the profession must lament, if not reprobate, we would forbear from noticing it: but when truth is really the object of research, and when its establishment is of so much importance to the lives and welfare of mankind, we enter into the discussion with an ardour only surpassed by that of those who have begun and carried on the inquiry.

Doctor Bancroft, in his first chapter, examines the statement of the symptoms which have been regarded by Dr. Pym as diagnostic of the Bulam or Pestilential fever, and the proofs "alleged to support its real entity." The first of the symptoms, "the peculiar shining or drunken appearance in the eyes," he regards as by no means peculiar to the Bulam fever; and although such a state of the eye sometimes occurs, yet that, as well as other appearances of these organs, "depend so much on their particular condition in each subject, and on the degree in which the brain is affected, and the blood determined to the head, that they must always be too variable to form any part of the character of this disease." The second symptom, the excruciating head-ache "confined to the orbits and forehead," our author also considers useless as a diagnostic, because it frequently extends to the temples, where it is felt even more severely than in the forehead; and it is besides a "frequent occurrence in remittent fevers." As to the third diagnostic of Dr. Pym, the absence of remissions in the Bulam fever, he brings forward the authority of Drs. Arejula, Gonzales, and the other Spanish physicians, who describe the

Carthagena, Cadiz, and Malaga Epidemics, which Dr. Pym regards as identically the same with that of Gibraltar, to prove that remissions are of frequent occurrence; but even were it true that no remissions occur in the Bulam fever, yet this, he contends, cannot be regarded as characteristic of that fever, since, according to Dr. Pym himself, the bilious remittent, in its more violent form, sometimes *proves fatal* on the second or third day *without evident remission.* "How then," he demands, "in this case, is the latter form of fever to be known as different from the other?" The fourth diagnostic mentioned by Dr. Pym, the general absence of yellowness of skin, or if any discolouration do take place, its being only of a very pale lemon colour, when the disease terminates favourably, our author considers at variance, not only with the reports of the Spanish physicians, but with the statements of Sir J. Fellowes, Sir Joseph Gilpin, and also of many of the medical officers in Gibraltar, in their answers to Deputy-Inspector Fraser. The yellow suffusion he regards as liable to be governed by casual circumstances, and observes, "I have never seen a yellow suffusion but when there had been some vomiting previously;" but, as it depends on the compression of the liver, by the violent contractions of the abdominal muscles and the diaphragm, during the action of vomiting, if the liver be comparatively small, and so lodged under the ribs as to be guarded from compression, cases may occur in which, although there be "incessant and violent vomitings," yet the skin "may remain clear of any tinge of bile." With regard to the fifth characteristic, founded on the duration of the Bulam fever, he remarks, that although it is true that in its most aggravated form it runs its course in from one to five days, yet, that "oftener it continues for a longer time;" and according to the evidence of Dr. Arejula, Sir James Fellowes, Dr. Burnett, and even some of the cases of Dr. Pym himself, it appears, "that this diagnostic is contrary to fact, and ought consequently to be rejected." The sixth and last of Dr. Pym's diagnostics, "the peculiar inflammation of the stomach, which in most cases that prove fatal terminates in gangrene, or in a diseased state of the internal or villous coat of that organ, accompanied with a vomiting of matter resembling coffee grounds," Dr. Bancroft considers as peculiarly defective; and contends, that Dr. Pym was bound to describe this "peculiar inflammation;" and the more so from its being said that it terminates in gangrene, which is a very uncommon result. As to the black vomiting, the authority of almost every writer on the subject proves, that it is common in severe cases of the ordinary bilious remittent of warm climates; and thence it cannot be regarded as characterizing Bulam fever.

Our author takes advantage of Dr. Pym's loose mode of writing, in mentioning the comparative degrees of heat in the three forms of Bulam fever; which, although he describes it as "burning hot" in the second form, yet "is greater," he says, in the third; and observes, with some degree of exultation, "how the skin, under disease, can be heated to a higher degree than *burning hot*, is not quite intelligible."

He finally contends, that Dr. Pym has completely failed also, in his attempts to prove, that the ardent or yellow fever is not one of the Protean shapes of miasmatic fever, and that his endeavours to prove the contrary, "like his diagnosis of the supposed Bulam, are mere illusions." Now although we do not accord with the propriety of the language in which these positions are stated by our author, yet we must admit their accuracy. From every fact we have been able to collect in the course of our reading on this subject, we have no doubt that the ardent or yellow fever and the bilious remittent of warm climates are merely modifications of fever arising from the same cause; and "that," as Dr. Bancroft observes, "both kinds occasionally *interchange* their forms and are converted into each other: that the ardent or yellow fever never occurs as an epidemic, but in places where the bilious remittent often prevails; and where it does occur as an epidemic, in persons not habituated to the climate, the natives and long residents are usually attacked by it in the milder forms of remittent fever;" and therefore it is unreasonable to pretend, that the ardent fever is a distinct and peculiar disease.

In the second chapter, Dr. Bancroft examines another peculiarity of the supposed Bulam fever, as described by Dr. Pym, that of "its attacking the human frame but once." Admitting for a moment the existence of this fever, our author advances sufficient proofs to shew that the Spanish physicians and others were fully aware of the effects of seasoning, or a long residence in a warm climate, in rendering persons less liable to its attacks; and hence he refuses to give Dr. Pym the merit of a discoverer, which he has claimed. The liability or non-liability of individuals to second attacks was thought of sufficient importance to form "a subject of inquiry by His Majesty's Most Honourable Privy Council;" but in the reports delivered by the superior medical officers of the Navy to the Commissioners of the Transport Service on this occasion, for the satisfaction of their lordships, the experience of these gentlemen is decidedly against the non-liability. To this host of evidence, the opinion of Dr. Ferguson, Inspector of Military Hospitals in the Windward Islands, is added, as well as our author's own experience; from all of which it appears, that although a residence in a warm climate, particularly after an attack of ardent or yellow fever, certainly renders the constitution less susceptible of a second attack of that disease, yet that it can be taken a second time, and may prove fatal in the second attack.

With regard to relapses in Bulam fever, which Dr. Pym supposes rarely or never occur, Dr. Bancroft adduces the testimony of Drs. Gray, Dickson, and Denmark, with that of Mr. Tobin of the Navy, and Messrs. Lea, Weld, Amiel, and Martindale of the garrison of Gibraltar, who have witnessed relapses, to prove the contrary; and in particular, he has quoted the following sentence from the report of Dr. M'Arthur, which is conclusive on the subject. "A relapse in the Bulam is by no means uncommon. I experienced it myself, and patients have relapsed under my care, who died with black vomit." Nor is the assertion of Dr. Pym, it appears, less to be depended upon, when, "in distinguishing the Bulam from the bilious remittent fever," he represents the latter (at p. 61) as being "almost always combined with affections of the *liver*; patients after recovery from the remitting fever being very generally subject to obstruction or disease of that viscus." This opinion is in direct opposition to our author's own experience.

> "Dyspeptic affections, and diarrhœa or dysentery, are the *more* common sequel of repeated attacks of *remittent* fevers; and these with diseases of the spleen are frequent consequences of repeated and protracted *intermittents:* dropsies, likewise, are sometimes a consequence of either of these species of fever; but compared with the above, I have found chronic affections of the liver to be rare."—p. 95.

The extensive evidence brought forward in this chapter is highly creditable to the industry of our author; and has perfectly convinced us of the fallacy of the opinion which maintains the existence of the Bulam as a distinct fever; whilst it completely disproves the allegations of those with whom that opinion originated.

In the third chapter, Dr. Bancroft enters upon the examination of the evidence on which the opinions regarding the contagious or the non-contagious nature of the fever in question are supported. It would be as impossible for us, as it is unnecessary, to follow him through the crowd of satisfactory testimony which he has brought together, in maintaining his former assertion of its *non-contagious* character; we need only affirm, that we are perfectly satisfied; and can anticipate no other result from its perusal by any one whose mind is equally unbiassed and open to conviction. We regret to observe, that many of the quotations made by Dr. Pym in support of his position, appear favourable to that opinion only from the unfair manner in which these quotations are made; whilst the real sentiments of the writers are decidedly inimical to the idea of the contagious nature of the disease. Thus Dr. Nooth's authority is advanced by Dr. Pym, as supporting the opinion of the *contagious* nature of the epidemic that raged at Gibraltar in 1804; whereas, when the evidence is fairly examined, it appears that Dr. Nooth had used the term *contagion* not in the strict sense, "but in the sense now often allotted to the term *infection*, as meaning a morbific matter not produced by the living body." The real opinion of Dr. Nooth is conveyed in the following quotation of a letter written by him to the Surgeon-General, on the 2nd of February 1805, nearly four months afterwards:

> "for my own part, I am well convinced that the epidemic fever that lately raged amongst us was the consequence of the extreme heat, drought, and calms, that prevailed from the middle of April to the end of October; and as to the *infectious* nature of the disease, it is by no means so clear a circumstance as the public are apt to imagine: I have, I must confess, still my doubts upon the subject, and I cannot be convinced, by what I have seen, that the disease is *personally infectious*."—p. 99.

The term *infectious* in this quotation, is evidently intended to signify what is strictly meant by the word contagion; and hence the conviction of Dr. Nooth of the non-contagious nature of that epidemic could scarcely be more clearly expressed.

But it would be of little avail merely to oppose opinion to opinion in a question of so much importance, and therefore our author, after exposing the undue advantages his opponent has endeavoured to take of him, brings forward the more positive evidence of facts in support of the opinion he maintains. For the satisfaction of those of our readers who have not had the opportunity of seeing the works from which Dr. Bancroft has drawn this part of his evidence, we select a few of the more striking passages.

Dr. Burnett, after mentioning the cessation of the epidemic of 1804, at Carthagena in January 1805, the last patient having been received into the hospital on the 23rd of that month, adds,

> "On the fifth of February following, a French frigate, having on board the wounded of the Arrow sloop, which she had captured a few days before, after a gallant resistance, arrived in the harbour; the wounded were immediately landed, and placed in the same beds and bedding, in which several patients, who had died of the prevailing fever, had lain, without the beds or bedding having been either washed or aired; yet not one of these men was attacked with the disease in consequence."—p. 116.

Dr. Pym, our author observes, opposes this important fact by saying, that as the ravages of the disease had already ceased before the French frigate was brought in, and as "its existence was at an end," there was nothing singular in the Frenchmen remaining free from it.

"We know, however, certainly," continues Dr. Bancroft, "upon the highly respectable authority of Dr. Stewart of Grenada, which even Dr. Chisholm must admit, that in that very island the bedding and cloathing of those who in 1793 took the Bulam Fever, in the town of St. George, and afterwards sickened and even died in the country, did not communicate fever[*] to any person whatsoever; and this was also the fact in regard to the same fever at Dominica, as Dr. Clark has attested: and as Dr. Pym assures us (p. 8), that "the contagious powers of this disease are increased by heat," the contagion ought in these islands at least to have manifested itself. It has indeed been stated by Dr. Stewart, that, "in the *fatal* cases, the bedding and cloathing were *commonly* destroyed; but as this was never done till after the patient's death, sufficient time must have intervened, even in these cases, for a previous communication of the disease, if contagion had existed. A like testimony of the non-communication of the disease by the cloaths, &c. of those who were ill of the fever, acknowledged by Sir Gilbert Blane, Sir James Fellowes, &c. to have been the Bulam, during its prevalence in Leghorn in 1804, is given by Dr. Palloni in the second volume of the Edinburgh Medical and Surgical Journal; and similar testimonies may be found in every part of the United States of America in which the disorder in question has prevailed, and also in Spain, as will soon appear from the declarations of Dr. Arejula, &c."—p. 116.

The following extract, given by our author "from the Report of Mr. Niell on the Bulam Fever," exhibits in a striking point of view the effect of local circumstances in producing fever in every respect simila rto the ardent or yellow fever of the West Indies in its worst form, and consequently the Bulam of Dr. Pym:

"In the year 1801, when Surgeon of a sloop of war going out on a secret service to the Red-Sea, after doubling the Cape of Good Hope in the best possible health, we arrived early in the month of April at Johanna, situated between Madagascar and the coasts of Africa; an island of great fertility, producing tropical fruits, vegetables, rice, &c. in wild luxuriancy. On our arrival at this delightful spot, as our stay was to be but short, every thing was instantly prepared for wooding, watering, and procuring fresh beef, vegetables, and fruit for our use; and for the accomplishment of these various duties different parties were appointed, but none, except the watering party, composed of twelve individuals, slept, or remained on shore, during the night, while we remained at this island (seven days). Soon after sailing, symptoms of fever of an unusual kind appeared, which in a few days attacked the whole of the watering party in an aggravated form, excepting one who had the command: he had served in the West Indies before, and escaped with a very trifling attack. The general symptoms were, an oppressed pulse, pungent heat on the surface, bloated countenance, a dull, heavy, inflamed eye, violent head-ache, pain at the epigastric region, and an invincible irritability of the stomach; the vomiting in all cases distressing, of a bilious nature and a yellow greenish aspect, which towards the fatal termination of the disease assumed a dark brown olive or *chocolate colour*. In none of the bad cases were *remissions* well marked, and in most of those who died, a yellow suffusion of the skin of a lemon hue, was conspicuous only a short time previous to death; in all, however, after death, this appearance was common. The discharges by stool manifested a similar variety, but they were so highly corrosive and acrid as to excoriate the anus and nates, and to excite the greatest dread in the patient on the approach of the evacuation."

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[*] " Dr. Stewart, who conceived the fever in question to be contagious, says, with great candour, in his letter to Dr. Hosack, "but I must observe that I met with no instance of the disease being communicated to others, either visitors or attendants," by those who were seized with this fever, "after their return to the country." See his letter to Dr. Hosack, at p. 188, vol. iii. of the American Medical and Philosophical Register."

" It may be sufficient to state, that, out of the twelve men thus violently attacked, *six* died: those who recovered had not the dark-coloured vomiting; and their convalescence was extremely tardy. Many of the men who had occasion to be on shore during the whole of the day, were attacked with fever, but in a milder form: and in them it always observed *distinct remissions*, and in a few cases intermissions were witnessed. In this instance, had the ship's crew landed and slept on shore, the disease would most probably have affected the whole, which would have improperly given rise to (a belief of) the existence of contagion, and that we had received 'a highly contagious disease' at this island, *as the Hankey*, it was said, *did at Bulam:* but here we see it clearly defined and a limit circumscribed on its sphere, beyond which it could not pass; we see it confined to those most exposed and *at night*: those doing duty on shore during *the day only* we perceive affected in a trifling degree, and *none* suffered of those who were *but little* exposed to the influence of this island by working: the officers therefore experienced a complete immunity from this fever, except one who had it slightly." —p. 132.

Having established the fact that a fever exactly resembling the Bulam, but devoid of contagion, can be produced by " exhalations from the soil," Dr. Bancroft next adduces evidence equally satisfactory, " to prove the production of the remittent, and of the ardent, yellow, or Bulam fever at the same time, in the same situations, and from the same *local* cause, i. e. febrific exhalations from the earth." The Report of Dr. M'Arthur, (No. 7), contains the following instance:

" April, 1809, about eight hundred prisoners of war, taken at the *Saints*, arrived at Barbadoes. Five hundred of these men were conscripts, and very recently from France. Some of the prisoners

> were put on board the Highland Lass, prison-ship; others were confined in the town-jail; and the remainder, about five hundred, were placed for temporary security in an old barrack situate on the margin of the marsh-land, near St. Ann's, which had for a long time been deserted on account of the unhealthiness of the situation. The army and the navy were at this time perfectly healthy, no case of Yellow Fever having appeared for months before. Towards the end of April many of the prisoners in this barrack were attacked with a *Remittent* Fever attended with bilious symptoms; and soon afterwards several cases of *real Yellow Fever* occurred, of which several *died,* with the *black vomit,* esteemed by Mr. Pym as a characteristic symptom of the Bulam Fever. At this time the prisoners in the jail, and on board the prison-ship, whom I visited daily, continued perfectly healthy. Both the *Remittent* and the *Yellow Fever* here appeared to arise from the *same* cause; and I feel assured, had the prisoners continued in the same place of confinement until a later period of the season, that a dreadful mortality would have been the consequence. Fortunately for them, they were soon removed into transports, in order to be conveyed to England, and with their removal the fever ceased."—p. 142.

The same writer, in noticing the non-contagious nature of the fever which prevailed at Barbadoes from 1804 to 1809, and which, he considered from a comparison both of the symptoms and the appearances on dissection, was undoubtedly the fever denominated Bulam by Dr. Pym, adds,

> " no place could be better adapted to propagate and disseminate contagion than the building which we occupied as an hospital in Bridge Town until May 1807. It was situated about a quarter of a mile from the wharf where the patients were landed and on the lee-side of the town, confined by miserable huts, huddled one upon another. The patients and their bedding were carried through the town to this place by such labourers as we could hastily employ for the occasion. They were obliged to rest and take shelter from the sun in any house that would receive them; and to the credit of the poor white and coloured inhabitants, they never were forced from their doors. The nurses, washerwomen, and sempstresses, were black or mulatto women, who daily visited their families in our neighbourhood; and as there were no accommodations for any description of officers in the hospital, lodgings were procured for them in various parts of the town, and they were received without hesitation, labouring under *the most malignant* form of the disease, *even in articulo mortis.* Yet, with this free communication with the inhabitants in every part of the town, the fever did not spread generally, nor partially, neither in its aggravated, nor its milder form. If it be contagious, in what way can we account for the native inhabitants of Bridge Town escaping *every degree of it* during a period of five or six years?"—p. 147.

From a summary of the opinions delivered in the Reports transmitted to the Privy Council, it appears that *three* only of the *twenty-four* gentlemen from whom these were obtained state decidedly that this disease is contagious; while *sixteen* have as positively denied the existence of a contagious property in it. Not contented, however, with this majority, our author quotes largely from a communication of Dr. Ferguson, the Inspector of Hospitals in the Windward Islands, to Sir James M'Gregor, in which the most incontestible proofs of the non-contagious nature of the fever are detailed. The following passage struck us so forcibly, that we cannot avoid adding it to our quotations:

> " At Barbadoes, our hospitals of late have been in a regular course of *importation of Yellow Fever from the navy,* but *not even inoculation*[*] has been able to produce the disease upon any member of the Hospital Corps; by whom, I may truly say, that the sick have been received with open arms: for the anti-social doctrines of ideal contagion are not preached among us here, to the prejudice of duty and humanity."—p. 188.

In the fourth chapter, Dr. Bancroft treats of the production of fever on board of ships from the foul state of the holds; a fact which he formerly maintained; but which he has been erroneously stated to have denied, because he denied the possibility of such causes producing *contagious* fever. He shews that many of the articles forming the lading of vessels, either as food or merchandize, are susceptible of putrefaction or decomposition; and from various parts of them breaking down and getting amongst the ballast, as soon as they find the requisite quantity of moisture, these naturally undergo that decomposition which becomes the source of "febrific miasmata." In inter-tropical climates, the effects of these causes in producing ardent fever have been too frequently observed. We shall extract a few of the instances brought forward by our author.

> " In the Thetis, in 1809, the Report states, that the fever did not appear until the *hold* was broken up, when about a dozen of men so employed were taken sick, and that four out of five carpenters who lifted the limber boards *died.*"—p. 209.

Dr. Johnson, at page 164 of his work, relates, that

> " in the month of February, 1806, Yellow Fever of a very severe description, broke out in his Majesty's schooner *Trinidad,* at Barbadoes, which was evidently occasioned by the stench arising from

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" [*] Hospital-Assistant Moon, on opening the body of a patient that had died of very aggravated Yellow Fever, *wounded* his finger; the wound produced high inflammation, similar to what occurs in the dissecting-rooms in England, running up the course of the lymphatics to the glands of the axilla, with *symptomatic* fever, but no more."

dirt, filth, and stagnant water in her hold: for as soon as the latter was washed and cleaned, and scuttles cut for better ventilation, the Fever disappeared."—p. 211.

These accounts are further confirmed by a statement of the fever that appeared under similar circumstances in the Regalia transport; and by copious extracts from two unpublished communications of Dr. Ferguson to the Army Medical Board, "partly on the subject of the Childers sloop of war, in which the fever broke out during her passage from Trinidad to Carlisle Bay, in August 1816." In this vessel not only the crew and the medical officers were attacked, but two surgeons of other vessels, who volunteered their services on board of her, were seized; and one of them fell a victim to the virulence of the fever. This ship, after having been blown out to sea, with fifteen effective hands only on board, arrived at Antigua, where she was ordered to be cleaned.

> "The hold of the ship was found to be in so extraordinary a state of filth, fermentation, and impurity, as most amply to account, in the opinion of the Medical Staff of the Navy, for the rise, progress, and continuance of the fever, that had prevailed on board her. Since her purifications she has continued perfectly healthy, though she has taken many fresh hands on board."—p. 230.

In an extract of a letter from Dr. Ferguson to our author, dated 15th of August 1817, the state of the air in this ship is thus described:

> "In my narrative respecting that ship, left with you yesterday, I alluded to its covering a Report from Dr. Wray, Physician to the Forces, wherein he particularly mentions the hold to have been so foul and offensive, that he found it impossible to *descend into it*. The same thing occurred to myself, and was mentioned in different Reports and letters to the Director-General. At the time when I attempted to go down into the hold, the seamen declared that on different occasions, when they were sent there, the *candles would not burn.*"

We regret that no analysis was made of this atmosphere; not because we think it possible to discover febrific miasmata by chemical tests, but from the circumstance of the candles not burning, the ascertaining the state of the atmosphere would at least have thrown some light on the nature of the decomposition in which these miasmata were, in this instance, generated. Our author thus reasons upon the probable nature of miasmata; but, in extracting the passage, we must premise, that we do not give it to our readers as containing an opinion with which we fully accord.

> "How these miasmata vary in their nature or their composition, we know not; and can only conjecture, by taking into our consideration the several matters existing in those places, from which these miasmata appear, by their effects, to have been extricated, and

also the *gaseous fluids,* which similar matters are known to produce by the decompositions to which they are naturally disposed in the temperature prevalent at those places.—Vegetables, by decomposition, afford carbon, hydrogen, and oxygen; animals afford the same, with the addition of nitrogen and a surplus of hydrogen, in proportions suited to the formation of ammonia. But the effect of this nitrogen, or of the ammonia thus produced upon the carburetted hydrogen gas, which results from *vegetable* decompositions *alone,* has not been yet ascertained; nor do we know how the exhalations, produced by the joint decompositions of both animal and vegetable matters, differ from those of decomposing *vegetables only.* Berthollet, in the second volume of the Mémoires de la Société *d'Arcueuil,* contends that hydrogen, carbon, and oxygen, may combine in unlimited proportions, and form various combustible and insalubrious gases, which he would call oxy-carburetted hydrogen: but Dalton and Henry think that oxygen is not an essential element of these compounds, and that hydrogen and carbon, forming alone carburetted hydrogen, or hydro-carburetted gas, are capable of uniting in but *few* proportions. This gas may be copiously extricated, by stirring the mud at the bottom of stagnant water; and we may at least conjecture that, with some modifications, marsh miasmata principally consist of it; the air collected immediately *over,* and *close upon, the surface of marshes,* having been found to contain hydrogen and carbonic acid gas in large proportions. But chemistry possesses so few means of separating the immediate principles of bodies without a *destruction,* or instant *recombination,* of some of them, that we may probably never be able to detect, or ascertain, the constituent parts, and much less the varieties, of marsh miasmata, or to discover that substance in which their febrific power resides." —p. 246.

This chapter is terminated with an interesting account of the epidemic fever at Sierra Leone, in Africa, in 1816.

The fifth and sixth chapters are dedicated to a detail of the epidemic yellow fever in Spain from 1800 to 1804; and the epidemics at Gibraltar from 1804 to 1814. In the commencement of the first of these chapters, our author charges his opponents with having unfairly stated his opinion; and with having endeavoured to make others believe, "that in alledging marsh-miasmata as the cause" of ardent or yellow fever, he had "exclusively contemplated those vapours or exhalations which arise solely from a distinct, ostensible, or formal *marsh*;" whilst his real opinion, as expressed in his Essay, is, that these miasmata may originate in any soil containing "no more moisture than is really necessary for a complete decomposition of the vegetable and animal matters therein," provided the temperature be not less than 80° of Farenheit, and therefore that it is not necessary that obvious marshes should be in the vicinity of any place, although the fevers appearing there are the effects of miasmata arising from the soil. The prevalence of remittent fevers both at Cadiz and Gibraltar during the summer and autumn, demonstrates the presence of such miasmata in these places, which is sufficient for our author's purpose in explaining the appearance of ardent fever there, under certain states of the atmosphere. In having thus established his point, we think our author has unnecessarily endeavoured to confirm it by reasoning (in nota) upon a passage of Jacob's Travels in the South of Spain, in 1809 and 1810, which describes Cadiz to be built on a peculiar structure, formed from a basis of Pechstein, containing a mixture of "shells, pebbles, quartz, sand, and marble, so intermixed and hardened in the course of years, as to form a compact kind of stone."

"Perhaps," says our author, "this peculiar foundation of Cadiz may, by its disposition to absorb and retain moisture, operate like *clay* in promoting the formation of fever exciting miasmata."

Now we believe it may be proved, that clay does not readily absorb moisture, but promotes the process here noticed by retaining it upon its surface and in its cracks without absorbing it; and by allowing it to stagnate in conjunction with any animal and vegetable matter with which it may come in contact. Chalk, which is both absorbent and retentive of moisture in a high degree, is not a soil favourable for the formation of febrific miasmata; and it is probable, that if the structure described by Mr. Jacobs, contributes to the production of miasmata around Cadiz, it is owing to its preventing the water from passing through it; and hence what remains unevaporated, acting on the supernatant soil at the suitable temperature, facilitates the decomposition of the animal and vegetable matter contained in the soil.

By the contagionists, the Andalusian epidemic of 1800 is said to have been imported in the Dolphin, a ship that came from the Havanna and touched at Charlston, South Carolina, in its way; but our author has proved the impossibility of such an importation, as no fever existed at either of these places before the Dolphin left it, and she communicated with no other place; facts which, from the evidence he has adduced in their support, are incontestible. The Spanish physicians themselves do not positively ascribe it to importation; although from the quotations Dr. Bancroft has made from the work of Arejula, their ideas on the subject appear to be extremely confused. Sir James Fellowes also, even at the moment in which he is endeavouring to gain credit to the story of the Dolphin having imported the disease, is so cautious as to say, that he cannot "offer any decided opinion as to the origin of the epidemic at Cadiz in 1800." Dr. Pym unhesitatingly asserts, "it was traced to importation."

Having proved that the Andalusian epidemic was not imported, our author proceeds to adduce evidence to establish the fact of its having arisen from local causes. During the spring months, cold heavy rains and violent winds were so frequent, as almost to destroy any appearance of spring; and these were succeeded in the summer by intense heat and the prevalence of the east wind, or levanter, as it is termed *(Levante seco y abrasador)*; causes, which Dr. Bancroft observes were sufficient to give the bilious remittent the *utmost violence* which miasmatic fevers can acquire.

> "The heavy rains and extraordinary cold of the spring months were exactly suited to create in the *human body* that unusual accumulation of excitability and inflammatory diathesis, which would afterwards render it highly susceptible of the most dangerous excitement, and at the same time to afford to the earth an abundance of moisture, which, being afterwards acted upon by the *scorching dry east wind,* and a temperature of nearly 90° of Fahrenheit, would produce and *maturate* a copious supply of the most virulent miasmata; and these, aided by the sudden transition from a very cold spring to a temperature exceeding that of the West Indian islands, must of necessity exasperate the fevers, when produced, in the highest degree."—p. 284.

The proofs in favour of the local origin of the fever as it appeared in Malaga, Carthagena, and other parts, are equally satisfactory; and, in advancing them, our author has pointed out the inconsistencies of Sir James Fellowes, and the vague manner in which the evidence by which he has attempetd to establish the contagious nature of these epidemics is brought forward. The evidence even of Dr. Arejula, whom Sir James has lauded as the highest and most respectable of all the Spanish authorities in support of the alledged contagion of yellow fever, is rather against his position, whilst it is in itself so inconclusive as to be "insufficient to give even the appearance of probability to that which he endeavours to prove;" and hence our author concludes this chapter with the following query:

> "And is it credible, if the yellow fever had really been contagious, that among the many thousands of persons who fell victims to it, and the still greater number of thousands who were attacked by it, Dr. Arejula would not have been able from his high official situation, which procured him the best means of information, to collect proofs of this fact, less equivocal than those on which he has found it necessary to rely?"—p. 330.

With regard to the epidemics that appeared in Gibraltar in 1804 and 1814, our author admits that, in the description of the place which he gave in his Essay, several inaccuracies had crept in; but nothing that could affect the conclusions he drew respecting the production of febrific miasmata there. He traces the epidemic of 1804 to "the accumulation of decomposable matters within the town, and the long prevalence of a dry and scorching east wind, which produced a very high atmospheric temperature, without any salutary ventilation of the place; and ridicules the story of its importation from Cadiz by a person of the name of Santos, as related by Dr. Pym and Sir J. Fellowes, that individual having actually left Cadiz a week or two before the period which Dr. Arejula, after the most deliberate inquiry and the best information, "has fixed as the earliest (period) at which the disease had occurred in that city." He proves, also, the absurdity of believing the affidavit of Mr. Pratt, who affirmed that he had had the fever at Cadiz; and stated that, after he had been ill eight days, and whilst he laboured under the *black vomit*, the most fatal symptom of the disease, he removed to another quarter of the town and recovered. He treats the declaration of Sir J. Fellowes that that affidavit was "*very satisfactory*" to himself, as one made in a moment when "he must have laid aside the exercise of his reason;" as it contains evidence on its face "of the absolute impossibility of its being true."

The fever at Gibraltar first appeared about the end of August, in a filthy spot called Boyd's Buildings, where Santos kept a shop, and to which its ravages were for some time limited, which "limitation," he remarks, "is eminently characteristic of fevers produced by *local* causes." It afterwards appeared in various parts of the town; but so similar was it to the ordinary bilious remittent, that it was declared to be that fever by "a meeting of medical gentlemen, civil and military, assembled by order of the government, on the 15th of September;" and, with the exception of Mr. Kewning, who declared it at first "to be malignant and highly contagious," this opinion continued to be maintained until "its violence and increased mortality," with the prevalence of a similar fever, supposed to be contagious, at Malaga and other places in Spain, changed it: but "the facts which the recurrence of this fever in subsequent years has made known, have since induced a majority of the medical officers at Gibraltar to reject altogether the idea of its contagious nature.

It is a curious fact, that, at the time the yellow fever of 1813 made its appearance in Gibraltar, that garrison "was in strict quarantine *for several months before* the malady made its appearance, and a Board of Health was sitting *almost daily*, on account of the plague which had broken out at Malta;" a fact not reconciliable, if it were proved that the fever was imported; but readily so, if we suppose it to have originated from local causes. It was believed to be highly contagious by the inhabitants of the town; but the error of this opinion was clearly pointed out by Mr. Humphreys, in a paper published in a contemporary journal; and its origin traced to "the immense collection of animal and vegetable matters," arising from an overcrowded population, "during the dry summer months, remaining stagnant from May until the end of August, and which became roused into action in the autumnal season by the partial rains, when the quantity of water is not sufficient to propel them through their respective drains." The fever of the following year is traced, with equal satisfaction, to local causes. One of the most interesting of the testimonies adduced, is the following, from a Report to the Transport Board, made by Dr. Gray, late Physician to the Mediterranean fleet.

> "The inhabitants can always foretel the approach of an easterly wind, from the offensive odour which arises from the privies, sewers, &c. 'The *shallowness of the sea-beach along the line wall*, is often a source of mischief; the sewers do not discharge their contents sufficiently into deep water, and when mixed with other materials thrown over it, the air must necessarily be vitiated, from these putrid fomites.'—'The bilious *Remittent* Fever is more or less *endemic* in the summer and autumnal months along the southern coasts of Spain, Italy, and the Mediterranean islands. The inhabitants of sea-ports, and towns in the vicinity of marshes, swamps, &c. are most liable to this disease, when the heat is unusually great and oppressive. *Strangers, particularly those from northern latitudes, are first attacked, and in a more violent degree than the natives.*' "—p. 329.

Dr. Gray thus describes the symptoms of the disease in its aggravated state, which correspond accurately with those of the supposed Bulam fever.

> " 'Great prostration of strength, excruciating head-ache, referring to the forehead and orbits, eyes turgid, flushed countenance, oppression at the præcordia, general pains of the back, loins, and calves of the legs, great irritability of stomach and bilious vomitings; yellow suffusion of the skin; if proper evacuations are not resorted to in the commencement of the attack, such as bleeding and copious purging, delirium shortly supervened, and towards the fatal termination of the disease petechiæ, hæmorrhages from the nose and mouth, with *black fœtid stools*. I have also observed, in some instances, the matter ejected from the stomach (in the last stage) of a *dark* colour resembling *the grounds of coffee*.' Dr. Gray adds (as before stated), 'during this long period of serving, I can not recall to my recollection a single instance of fever's being communicated from one person to another, either amongst medical attendants or nurses.' "—p. 390.

This description of the disease, and the opinion of its non-contagious nature, are further confirmed by evidence drawn from the answers of the majority of the medical officers of the garrison to the queries of Mr. Fraser; and our author appears, to our judgments, to have fairly made out his case, "that the fever which has prevailed epidemically several times within the present century at Gibraltar, originated from domestic and atmospherical causes, and was destitute of any contagious property."

We think it unnecessary to enter into any particular examination of the evidences brought forward in the seventh chapter, which treats "of the epidemics in Spain from 1810 to 1814; also at Stony Hill in Jamaica from 1808 to 1816; and in Barbadoes in 1816;" and shall therefore pass on to the Conclusion, to which are added some "Observations on the Evils resulting from Quarantine and other Regulations as connected with the Yellow Fever." In reverting to the facts and arguments he has advanced, to prove the object for which he contends, Dr. Bancroft conceives he has rendered it evident that Dr. Pym has completely failed in proving the existence of the Bulam fever as a disease sui generis; and equally so in his proof that it was imported, and possesses contagious properties. He observes,

> "It is notorious that the latter fever has never prevailed in any place, or at any season, in which remittent fevers do not occur, and that it is invariably preceded, accompanied, and followed, by them; and as they are the acknowledged offspring of those fever-exciting exhalations called marsh-miasmata, and as these miasmata are known, at the times and situations in which *a high temperature* prevails, to aggravate the remittents, and convert them into violent continued fevers, similar in every respect to that form of fever called Pestilential or Bulam (which only occurs as a *consequence* of this *high temperature*) would it not appear natural to all unprejudiced minds, when the latter becomes prevalent simultaneously with what are called Bilious Remittents, to refer *both* to *one and the same cause* (a cause *notoriously adequate to produce both*), rather than adopt the improbable and strained supposition of two *very different*, if not opposing, causes, occurring and operating with *epidemic violence* at the same time and place; and one of them at least (contagion) *never manifesting itself* at any time, or at any place, in which the other does not prevail."—p. 459.

Believing in the correctness of these opinions, he thinks it his duty "to recommend to His Majesty's government the suspension or abolition of all quarantine regulations, so far as they respect the yellow fever*;" and concludes with the following remark:

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* We are much surprised to observe, in a Report of the Faculty of Medicine of Paris, in answer to some queries of the Minister of the Interior, relative to the necessity of preventing the introduction of the yellow fever into France by commercial intercourse, that the French physicians recommend the strict enforcement of the quarantine laws; at the same time that they are by no means satisfied of the contagious nature of the fever; and acknowledge that the places where it has appeared present local circumstances sufficient to produce it.—"Des conditions propres à favoriser l'alteration putride des matières animales et végétales arrêtées et stagnantes."—Vide *Journ. de Medecine,* vol. xxxix. p. 449.

"In regard to the fourth clause of the first report made by the Royal College of Physicians to His Majesty's most honourable Privy Council, concerning Dr. Pym's publication, in which the College state their belief that 'the cold of our climate would not prove a preservative against the contagion' (of the Yellow Fever), because 'it appears that, during the months of October and November, when the fever raged at Gibraltar, Malaga, and Leghorn, the temperature was greatly below the average heat of our summer,' it may be observed that this fever has never appeared at these or any other places, without a *previous* occurrence and *prevalence during a considerable time* of a degree of *atmospherical heat*, which is *rarely* felt *here*, and which, when felt, *never continues a sufficient time to produce the disease;* which degree of atmospherical heat seems indispensably necessary to the preparation and maturation of the fever-exciting miasmata. This explanation (which, through an erroneous belief in contagion, has been overlooked) will, I conceive, upon due consideration, remove all apprehension of the *possible* existence of the Yellow Fever in the British Isles."—p. 466.

Our readers must have already collected, from our passing remarks, the opinion we entertain of Dr. Bancroft's work; and we do not hesitate, on a retrospect of all the evidence, to state unequivocally, that he has fully satisfied us of the truth of the position he is anxious to maintain. That the same effect will be the result of the perusal of his volume by every one who sits down, as we have done, with an unprejudiced mind to the task, we have no doubt; and we have only to regret that the spirit of controversy has, in some few instances, led him to use stronger language in speaking of his opponents, than we wish to see prevail in scientific discussions.

To find that yellow fever is really not contagious, and that it originates in local causes, which may be brought under the controul of man, or at least may be avoided because they are known, must prove a source of high gratification to every friend of humanity: and we can conceive few triumphs more satisfactory than that which our author must feel, in having been able to bring together a mass of evidence capable of incontrovertibly proving so important a truth.

II.

Medico-Chirurgical Transactions, Volume VIII. Part I. 8vo. pp. 315. London, 1817. Longman and Co.

The exertions of the respectable Body which issues this half-yearly volume, continue unabated; and it is our duty to bring its labours before our readers. But, as the periods which intervene from the appearance of one Part to that of another, are so short, and the circle of their readers is now so much widened, we do not think it necessary to enter as minutely into the analysis of each paper, as has hitherto been our custom. The present Part contains thirteen articles; of which, eight are Surgical, two Pathological, and two only strictly connected with the Practice of Medicine. How far this majority of communications can be regarded as a proof of the superior ardour of the surgeons, and the consequent improvement of surgery, we will not pretend to decide; but it is at least highly creditable to that branch of the Profession.

The first of the pathological papers which we shall notice, is by Mr. Howship, and intitled, "*Observations on the Morbid Structure of Bones, and an Attempt at an Arrangement of their Diseases.*" The previous and valuable inquiries of Mr. Howship, which are before the Profession, may be regarded as preparatory to that now under examination. He nevertheless modestly doubts his adequacy for this part of his task, in which so little aid can be obtained from books; for with the exception of Mr. Hunter, who had studied it profoundly, scarcely any physiologist has written professedly upon the subject. The previous inquiries, however, of Mr. Howship, his knowledge of the use of the microscope, and the advantage he enjoys of having recourse to Mr. Heaviside's very "valuable and extensive" collection of diseased bones, have afforded him great facilities in the prosecution of his investigation, and enabled him to overcome most of the obstacles which presented themselves.

The circumstance of the existence of a membranous expansion within the medullary cavities of the large bones, was pointed out by Havers and some other anatomists; and from having occasionally seen small arteries entering the substance of bones, they were led to infer a vascular structure in these organs; but our author justly conceives, that "the existence, vascularity, and functions of the membranous sheaths, within even the smallest tubes and canals contained in bone," was first demonstrated by himself.

> "The small space," he remarks, "occupied by the blood-vessels of the canals, compared with that which is found to be allotted to the secretions and membranes of these cavities, distinctly prove that the circulation must, under all circumstances, enjoy as much freedom here as elsewhere; and the intimate connection formed by these canals between all parts of the bones and the surrounding soft parts, affords the strongest ground for believing, that the minute vascular and membranous organization of the bones is as susceptible of impressions from irritation, or sympathy, as the muscular, glandular, or other soft structures of the fabric."—p. 62.

He maintains, that the same laws which regulate the progress of irritation or inflammation in membranous parts, regulate and direct also "the sphere of irritation in the diseases of bones." He dissents from the opinion held by some writers, that "an effusion of purulent matter upon the bone, operates by dissolving the ossific structure;" and assumes it as a point upon which many of his observations rest,

> "that in every case in which bone is acted upon, the soft solids have been in close contact with it, that consequently the sections of all the minute cavities must give an accurate outline of the external figure of the contents, and that whenever bone is removed it happens through the immediate agency of absorption."—p. 65.

From remarking also that the minute longitudinal canals become uniformly larger in some diseases of bones, whilst sometimes they retain their smooth polished surface, and sometimes become rough and uneven, he has been led to the discovery of the singular fact,

> "that under the influence of some diseases, the membranes of these canals become absorbing surfaces without losing their naturally smooth even texture, while in others they not only become thicker and more vascular, but take on a granulated structure externally, where the surface of absorption acts upon the surrounding bone."—p. 65.

He does not, however, conceive, that absorbents exist in the minute longitudinal canals in bone, the mean diameter of which does not exceed $\frac{1}{200}$th part of an inch; but concludes, that "the minute branches of the veins are in these minute canals appointed to perform the office, and conduct the function of absorption. With regard to the mode in which the condition of bone is changed to admit of its absorption, he ventures to suggest the following opinion:

> "My own opinion is, that in every instance where bone is absorbed, the process is commenced by the agency of some power exerting itself in the blood circulated over the part, by which the state of the animal principle is changed, and the particles of earth let loose, so as to be ready for removal by absorption; and although we yet know very little upon the subject, I think I shall be able to demonstrate that the interstitial absorption of bone takes place by the different modifications of action of the same vessels, and the same membranous sheaths. There is the slow absorption incident to growth and health; and that which occurs in connection with healthy inflammation of bone; besides the absorption that takes place during the existence of venereal complaints, and the use of mercury; and many others.
>
> "It is presumable that the extremely minute circumstance which has been demonstrated to exist in the interstitial parts of bone, may, like the other systems connected with the machine, be capable of varying and modifying the actions of its vessels in a manner peculiar to itself; and that dependent on the variations of

action in the blood-vessels, will be the particular affinities, at one time favoured, and at another retarded. It also seems to me extremely probable that the galvanic influence, which in some late experiments has been found to exert a power as curious as unexpected, in arranging and separating the elementary constituents of animal fluids, is evolved in the blood, by the action of the vessels upon their contents; and that the particular arrangement of the vessels regulates the resistance and motion of the blood in such a manner as may best insure the evolution of the precise measure of animal electricity that is required for the production and disposition of the new combinations."—p. 69.

There is too much fancy in the above explanation to produce a conviction of its probability on our minds; at the same time we must confess, that any opinion we have formed on the subject is not better founded.

Having premised these general remarks, our author proceeds to the consideration of the diseases of bones; and, for the sake of method, has attempted an arrangement of them "according to the more obvious characters of each affection," under the nine following divisions:

"1. *Alteration of external figure, not arising from general swelling, but most commonly from a deposit of newly formed ossific matter, upon the surface of the bone.*"

This division includes nodes, exostoses, the appearances produced by the formation of new joints, the ossification subsequent to necrosis, and the callous thrown out in fractures.

"2. *Enlargement, from swelling of the original substance of the bone.*"

Under which are arranged the appearances produced by spina ventosa.

"3. *Enlargement of bone, connected with an increased interstitial deposit of ossific matter, producing a more dense and compact texture than natural, as happens in healthy ossific inflammation.*

"4. *Enlargement more or less perceptible, with a disposition to absorption and disorganization of bone, either operating from the internal or medullary cavity, when the parts of the bone are progressively separated and absorbed; or acting upon the external surface, when a succession of superficial exfoliations are thrown off.*

"5. *Absorption, without enlargement; a consequence of peculiar excitement, more or less diffused through the general structure of the large bones, tending to weaken their sides, and render them liable to fracture from slight causes.*

"6. *Change in the figure of adult bone, from absorption removing in succession the more internal parts of the structure, weakening the general fabric, and rendering it by degrees incapable of supporting the weight of the body, or the action of the muscles.*"—p. 72—7.

Under this division are placed the appearances produced by mollities ossium.

"7. *Partial death, or necrosis of bone; sometimes the result of inflammation and abscess within the bone, but most frequently the consequence of disease in the soft parts covering it.*

"8. *Change in the figure of growing bone; dependent upon the more or less perfect removal of the phosphate of lime from the ossific texture, the organization of the bone in other respects being unaltered.*

"9. *Loss of firmness, with absorption and disorganization of bone; induced by a depraved state of constitution, in some instances nearly allied to scurvy, and connected with decomposition of the gelatin of the ossific structure.*"—p. 78—9.

In the present paper, Mr. Howship has confined his observations to the first of these divisions; under which, he has placed appearances resulting from a specific disease, as the venereal; those depending on purely local action, excited, for example, by external violence; and those produced by the deposition of ossific matter, "as the natural means of repairing injuries of various kinds."

The first of these appearances, "*partial swelling of the external surface of bone,*" seems to our author to be "the result of some external cause, applied either in the form of pressure or bruise." The state both of the periosteum and of the membranes of the bony canals, is not that of health, yet not very different from it, and is perfectly local. In some instances, however, "the whole substance of one side of the cylinder of a bone is affected;" but the structure of the tumour thus produced "differs in no respect from that of healthy bone." In some cases, the alteration is "the result of a gradually increased secretion of medullary matter into the longitudinal canals;" in others, it is "the consequence of an increased secretion of ossific matter; which, however, is still deposited as in health."

The engravings of the specimens of these affections, selected by Mr. Howship to illustrate his description, are well executed and extremely satisfactory. As an instance of the secretion into the medullary space, he describes a part of the cranium of a man who had been insane for many years, which is preserved in Mr. Heaviside's museum.

> "The left parietal bone is raised up into an unequal tumor externally, consequent to an increased secretion of ossific matter into the medullary space, or diploe, between the two tables of the skull. The distance between the separated tables of the cranium, at the thickest part of the tumor, is about an inch; the basis covering an extent equal to about four inches. The natural figure of the cavity of the cranium remains unaltered."—p. 60.

Mr. Thomson, one of the Editors of the *Repository*, in a recent visit to Paris, saw a similar instance in a fresh skull in the dissecting saloon of the Hospital de la Charité. The individual, who died in the hospital, was not known to have ever been insane, nor to have had any particular affection of the head; but Mr. Thomson could not learn the history of the disease of which he had died. On sawing through the skull-cap at the vertex, in a direction parallel to the coronal suture, the right parietal bone was found to be thickened so as to form an irregular tumour externally; the thickest part of which exceeded an inch, whilst the cavity of the cranium was perfectly natural. The bony deposit had been apparently made into the diploe, which, however, was nearly obliterated; whilst the thickened portion had the aspect of the most healthy bone*. The left parietal bone was also elevated in a similar manner; but in a much inferior degree.

On the subject of "*the ossific action of the vessels of the periosteum producing nodes or exostoses,*" our author brings before his readers the examination of two kinds of structure. The one, "a circumscribed scale or lamina of bone upon the natural surface," resulting from an inflamed state of periosteum; the other, attended with thickening of the periosteum and the effect of a more or less diseased state of the membrane, "which, continuing to increase in volume during the progress of the disorder, assumes new characters, determining the kind and quantity of the ossific secretion, conformably to the age and constitution of the patient." This ossific secretion takes place upon the undisturbed surface of originally-formed bone, and in some instances the deposit is not "immediately upon the original surface," but into the texture of the periosteum, a very fine lamina of which is interposed between the original bone and the new formation. Our author has given a good microscopic representation of a specimen of this kind of deposit.

In the formation of exostoses, "the measure of irritability of the system" regulates the consequences of the disease and the pain attending it: and our author has brought forward sufficient examples to prove, that the disease is in the periosteum; and the spongy mass, however large, is completely separable from the bone round which it forms. In one specimen of the disease which he minutely examined, he found, that the structure "of the various ossific masses" of which the tumour was composed was "finely laminated or fibrous, proceeding in a divergent course from the central part of the disease." He supposes "the first deposition of the ossific matter took place in the form of small irregular masses," which were afterwards rendered foliated by the operation of the soft parts of the disease. A good engraving is given of the disease; and from the manner in which Mr. Howship has treated this first division of his subject, we anxiously look for the sequel of his labours.

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* This skull was examined chiefly as affording an admirable illustration of the fallacy of Drs. Gall and Spurzheim's physiognomical hypothesis; the external form of the skull displaying an extraordinary developement of the organs of *Hope* and *Conscientiousness* without any corresponding cerebral enlargement.

The next paper, according to our arangement, is the "*History of a Case of Rupture of the Brain and its Membranes, arising from the accumulation of Fluid in a case of Hydrocephalus Internus.*" By John Baron, M.D.

This was a case of congenital disease, and the head, when the child was brought to Dr. Baron, measured twenty-eight inches in circumference. It, however, became again smaller after a tumour on the top of the head, the size of a goose's egg, appeared, accompanied with an increased flow from the urinary organs, and it went on decreasing while this flow continued; but when it stopped, the head again rapidly enlarged. When the rupture took place, "a watery discharge tinged with blood was seen to ooze from the nostrils and mouth;" and this continuing to the last, the head, which was diminished by it, never again acquired its original magnitude. It was remarkable, that when this oozing was by any circumstance diminished, the urinary discharge increased in a corresponding degree. The intellectual faculties were not much developed, and the child never "made the slightest attempt to articulate." At the death of the patient, the head was nine inches less in circumference than it was before the swelling on the top appeared. The following were the appearances on dissection:—

> "A little to the right side of the falx the dura mater was ruptured, as was demonstrated by a well-defined circular opening nearly one inch in diameter, which communicated directly with what was the external tumor and the interior of the brain. Through this opening I evacuated between three and four pints of fluid, which was contained in a bag formed by both hemispheres of the brain. The expansion of the brain was so great, that round the margin of the opening of the dura mater, it did not equal the thickness of a shilling; and under the opening it had entirely disappeared, proving that it had given way when the dura mater yielded, and allowed the fluid from the internal cavity to escape into the outward swelling.
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> "The cerebellum was entire, and the organs of the different nerves seemed unimpaired. I could not well examine the æthmoid bone, but I easily passed a probe through it into the nose."—p. 54.

(To be continued.)

PART III.

SELECTIONS.

Extraordinary Case of a Blind Young Woman who can read by the Points of her Fingers. By the Rev. T. Glover.

(To Dr. Thomson.)

Sir,

Being lately on a visit at Liverpool, I had a favourable opportunity of witnessing the exercise of an extraordinary faculty possessed by a blind young woman, named Margaret M'Evoy; and I have been induced, by the request of my friends, to send the results of my experiments for insertion in your Journal.

Without pretending to give a medical report of this singular case, which an abler pen is preparing for the public, I shall briefly premise that Miss M'Evoy is a native of Liverpool, and about 17 years of age. She became blind in the month of June 1816, from a disorder in the head, which was supposed to be water on the brain, and which was treated as such: she was partially relieved by a discharge from the ears and nostrils. She has since experienced two returns of the same disease, and each time has been relieved by a similar discharge of fluid. A portion of this fluid has, I believe, been analyzed by Dr. Bostock. She has remained completely blind from the time of her first attack. She first discovered by accident, about the middle of October 1816, that she could read by touching the letters of a book.

Having blindfolded her in such a manner that I was certain not a ray of light could penetrate to her eyes, I made the following experiments, most of which had not been tried before. I copy the results from notes taken on the spot, and nearly in the order in which they were made:—

Exper. 1.—I presented to her six differently coloured wafers fastened between two plates of common window glass. She accurately named the colour of each. She pointed out, unasked, the cracks and openings in the wafers. Being asked, while touching the surface of the glass above the red wafer, if the substance under might not be a piece of red cloth or paper, she answered, "No, I think it is a wafer."

Exper. 2.—She described the colour and shape of triangular, square, and semi-circular wafers, fastened in like manner between two plates of glass.

Exper. 3.—To the seven prismatic colours, painted on a card, she gave the following names: scarlet, buff, yellow, green, light blue, dark blue or purple, lilac. As the orange paint was much faded, the term buff was correctly applied to it.

Exper. 4.—The solar spectrum being thrown by a prism, first on the back, and then on the palm, of her hand, she distinctly described the different colours, and the positions which they occupied on her hands and fingers. She marked the moments when the colours became faint, and again vivid, by the occasional passage of a cloud. On one occasion she observed that there was something black upon her hand; but perceiving it to move, she said it was the shadow of her own fingers, which was correct. The prismatic colours have afforded her the greatest pleasure which she has experienced since her blindness; the violet rays were the least pleasant. She never saw a prism in her life.

Exper. 5.—The prism being put into her hands, she declared it was white glass; but, on turning it, she immediately said, "No, it is not; it is coloured; it has colours in it:" and she traced with her finger what she called "bent stripes of colours." She could discover no colours on that side of the prism on which the direct rays of light fell.

Exper. 6.—She perceived the coloured rings formed by pressing together two polished plates of glass. She said she felt them at the edge of her fingers flying before them.

Exper. 7.—Several attempts were made to ascertain whether she could discover colours in the dark, by presenting differently coloured objects to her hands, concealed under a pillow. She always failed; every thing appeared black. On one occasion she said a green card was yellow.

Exper. 8.—She read a line or two of small print by feeling the letters. She next read through a convex lens at the distance of nine inches from the book. The principal focal length of the lens is fourteen inches. While reading, she gently rubs the upper surface of the lens with the tips of her fingers; she reads much easier through the lens than without it; she says the letters appear larger, and as if they were printed on the glass. A pen-knife was laid on the line which she was reading, and she immediately perceived and named it.

Exper. 9.—A concave lens being put into her hands, she tried to read through it at the distance of seven or eight inches, but said that the letters were all confused. As she moved the lens towards the book, she at length perceived the letters, but observed that they were very small. She could not read easily until the glass was laid on the paper.

Exper. 10.—She read common print by feeling on the upper surface of a piece of common window glass held twelve inches from the book. At a greater distance she could not read; but could read much easier when the glass was brought nearer to the book. In like manner she perceived through the glass several coins spread out before her; told which had the head, which the reverse upwards; pointed out the position of the arms, crown. &c.; read the dates; and observed, unasked, that one half-guinea was crooked.

Exper. 11.—On applying her finger to the window, she perceived two newly cut stones, of a yellow colour, lying one on the other, at the distance of twelve yards. She described a workman in the street, two children accidentally passing by, a cart loaded with barrels of American flour, another with loaves of sugar, a third empty, a girl with a small child in her arms, &c. One of the company being sent to place himself in different positions, she marked every change of position as soon as any one with his eye-sight could have done. A middle-sized man at the distance of twelve yards did not appear, she said, above two feet high. As he approached nearer, she observed that she felt him grow bigger. All objects appear to her as if painted on the glass.

Exper. 12.—A stone ornament in the shape of an orange she took for a real orange, feeling through the plain glass, at the distance of two or three inches; at the distance of fifteen inches, it appeared no larger than a nut; at thirty inches distance, it was diminished to the size of a pea, the brightness of the colour remaining undiminished.

Exper. 13.—On touching a plane glass mirror, she said that she felt the picture of her own fingers, and nothing else.

Exper. 14.—Holding a plate of plane glass three or four inches before the mirror, she was then enabled to perceive the reflected image of herself. When the mirror was gradually removed further off, she said her face diminished. All objects constantly appear as a picture on the glass, which she touches.

Exper. 15.—She perceived through a plane glass, as before, the image of the sun reflected from a plane mirror; also the sun itself. She said she was not dazzled with it, but found it very pleasant.

Exper. 16.—She accurately described the features of two persons whom she had never seen before, holding the plane glass at the distance of three or four inches from the face.

Exper. 17.—Several small objects were held over her head. She perceived them all through her plane glass. On one occasion she asked, doubtingly, if a three-shilling piece was not a guinea; but raising the glass, and bringing it nearer to the object, she corrected her error.

Exper. 18.—She was unable to distinguish colours by the tongue; but holding between her lips the red, yellow, blue, and white petals of different flowers, she told the colour of each accurately.

Exper. 19.—She accurately distinguished polished glass from natural crystals by the touch. She declared three several trinkets to be glass, which were believed to be stone; being tried by a file afterwards, they proved to be paste. She also distinguished between gold, silver, brass, and steel; likewise between ivory, tortoise-shell, and horn. " Gold and silver," she said, " feel finer than the other metals: crystals feel more solid, more firm, than glass."

Exper. 20.—She could not discover, by feeling, any difference between pure water and a solution of common salt in water.

These experiments were frequently repeated and varied, during the space of three days that I had the opportunity of seeing her, with the same results.

I must observe that this faculty of distinguishing colours and objects is more perfect at one time than at another: sometimes it suddenly and entirely fails; then every thing, she says, appears black. This sudden change seems like to what she remembers to have experienced when a candle has been extinguished, leaving her in the dark.

She says that she has not been taught by any one to distinguished colours by her fingers; but that, when she first perceived colours by this organ, she felt convinced that they were such and such colours, from the resemblance of the sensations to those which she had formerly experienced by means of the eye.

From the preceding facts, it appears evident that Miss M'Evoy has perceptions, through the medium of her fingers, similar to those which are usually acquired through the medium of the eye. With respect to the manner how she acquires them, and the necessity of an intermediate transparent substance when she does not actually touch the object, I shall offer no conjecture.

I have only further to add, that she has no apparent motive for attempting to impose upon those who visit her, were such an imposition practicable. She receives no remuneration from visitors. On the contrary, the mere presence of a stranger agitates her considerably for a time; so very weak and delicate is her state of health. Any noise and bustle affects her still more painfully: and I am ashamed to say, that some of her visitors have showed a great and culpable disregard for her feelings, and subjected her to much unnecessary inconvenience.

I remain, Sir, &c. T. Glover.

Stonyhurst, Aug. 25, 1817.

(*Annals of Philosophy, No.* 58.)

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

ANATOMY, PRACTICE OF MEDICINE, AND SURGERY.

I.—"*Description of an Uncommon Petrifaction of the Heart.*—Dr. Weber, teacher of anatomy at Saltzburgh, whilst lately making some demonstrations upon the diaphragm to his pupils, on the body of Sergeant Ploudek, 79 years of age, on opening the thorax, found, to his no small astonishment, a morbid metamorphosis of the heart; which, if not without a precedent, is certainly exceedingly rare. Professor Ehrhard asssisted him in the most minute examination of this heart, and the following observations were the result of their joint examination.

"The heart, together with the pericardium, which was found to be consolidated with it in every part, the vena arteriosa, as far as its transit into the lungs, the aorta ascendens, together with the aortic arch, weighed one pound two ounces and a half common weight*. The size or circumference of the heart alone could not be ascertained, it making, together with the pericardium and the petrified mass, which would improperly be called ossification, but one substance. The circumference of the whole is one foot one inch and a half. The length from the basis of the heart to its point, is five inches and a quarter. At the bottom of both ventricles and towards the processus of the larger vessels of the heart, much fat was found on severing the pericardium. The vena arteriosa as well as the aorta, had an uncommon diameter; that of the aorta ascendens, the sides of it being pressed flat together, was two inches; that of the arch of the aorta, the sides being compressed in a similar manner, one inch and three quarters. The aorta descendens, together with the arteria femoralis and cruralis, had also a larger diameter than common, and the integuments of all these distended vessels were thicker than in the ordinary state. On the vessels, cartilaginous patches, like indurations, were here and there observable; but on the more distant vessels, such as the arteria cruralis in regione inguinalis, and arteria pudenda communis, and arteria poplitea, as also on the arteries of the soles of the feet, petrified spots appeared. But the most important and striking pathological appearance was found in the heart itself. This and the pericardium were consolidated, and resembled to the touch two oyster shells, each forming a mass which was flat and concave on the outside, and flat and convex on the inside. The one was situated forward upon the right ventricle and auricle, the substance of which was petrified throughout, as was the right atrium cordis in part: the other mass was situated backwards on the left ventricle, stretching over the bottom of it into the substance of the pericardium and the heart. Both these petrified masses were connected together by processes formed of the same matter on the hinder or under surface of the heart.

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* We know not whether German or English weight and measure are meant.

"This petrified mass was on the fore part full two inches in length and three in breadth, exclusive of the processus, which will be more accurately defined in describing the petrified mass on the left side. It was about half an inch in the thickest part.

"The petrified mass on the left side, or back part, was two inches and a quarter in length, and three inches and a half in breadth, and about one inch thick. From it a process was formed over the whole posterior lower surface of the heart, of a similar petrified substance, one inch long and three inches broad, which joined the petrifaction on the right side.

"The right atrium cordis, where it is formed by the upper and lower vena cava, is in a common state. The left atrium cordis and auricula are completely free from petrifaction, so is the right ventricle for the most part, and the point of it is entirely free. The left ventricle about the rim of the heart is partly, and the point of the same is altogether, free from petrifaction. The diameter of both ventricles and of each atrium cordis is somewhat larger than usual; for the rest, the valvulæ, together with their attaching sinews, are quite perfect. The ventricle atrium on either side the veins and arteries immediately issuing from the heart, were filled with clotted blood; with this difference, that the blood in the right atrium, ventricle, and vena cava, was black; but the left ventricle, atrium, and aorta, instead of coagulated blood, contained a coagulated yellowish lymph, which half filled the cavum aortæ in particular. The lungs were perfectly sound, except their inner surfaces which covered the pericardium, and with which they were in part consolidated. Both receptacles in the pleura contained about four pounds of brown water. The cartilages of the ribs could all be cut through with a knife, though the subject was seventy-nine years of age. Both kidneys, although otherwise sound, contained on their outer surfaces several hydatids. The bladder was very small and contracted, but the vesiculæ seminalis and prostatæ were particularly large. The latter was almost half as large again as the usual size, but not degenerated. The left vesiculum was very large; and on the right side two of them were observed that already were divided at the transit of the vas deferens, each of which was of the usual size, but not degenerated.

" The following few pathological data could be collected from the life of this old man: He possessed a stout body and lively temper; and, for the greatest part of his life, had enjoyed good health. About eleven years ago, however, he had been ill of the jaundice for about three weeks. Soon after he was seized with a violent spasm in the stomach, which had since returned almost every year till his death, most commonly towards the end of winter, and every time it lasted for eight or nine weeks. Since that period, he was troubled with indigestion whenever he indulged himself a little. According to his own expression, he felt a continual throbbing sensation in the stomach, the removal of which alone, would, in his opinion, make him quite well. The source of this indigestion and those spasms in the stomach, was doubtless the heart undergoing the above-mentioned metamorphosis; which, by its somewhat greater expansion, or the greater irritability of the stomach, or its heavy pressure on the latter through the diaphragm, interrupted its functions. About sixteen weeks from the time of his death, he was seized with the spasms of the stomach for the last time; and about four weeks before his death, he is said to have suffered much for four days, from a pain in his side, both day and night, which was very violent, particularly on the left side of the breast. His pulse was hard and equal, but not frequent; a violent cough, and some œdema on his arms and feet, were also observed.

" There is no doubt but that this acute disorder was an inflammation of the heart, during which, the consolidation of the heart with the pericardium, and that of the latter with the lungs, took place. A general dropsy succeeded; on which account he was received into St. John's Hospital at Saltzburg; but when this complaint was nearly removed, his pulse became irregular, and he died quite exhausted."—*Saltzburgh Medico-Chirurgical Papers.*

II.—Whatever can throw any light upon the pathology of *Epilepsy* is too important not to be generally interesting: hence we conceive a translation of the following extract of a memoir on that disease, which was read by *Dr. Esquirols* at the sitting of the Society of the Faculty of Medicine of Paris on the 17th of June last, will not be unacceptable to our readers.

" Case 1. A girl, who was attacked with epilepsy at twenty-eight years of age, on arriving at her thirty-third year, became maniacal in the intervals of the epileptic attacks; and died at the age of thirty-seven. The dissection of the body displayed a softened state of the spinal marrow towards the eleventh and twelfth dorsal vertebræ. The softened medullary substance was of a light brown colour.

" Case 2. A woman, who had long been epileptic, contracted a syphilitic disease in her thirty-first year. She took a great deal of mercury, which occasioned an increase of the fits; and she was attacked with temporary derangement sometimes before, sometimes after, the epileptic accessions. She died at thirty-seven, in consequence of an organic affection of the uterus and ovaria. The lumbar extremity of the spinal marrow was found to be comparatively denser than the rest of the medullary substance.

" Case 3. ——— was epileptic from her infancy, and had epileptic vertigoes every day. She was very choleric, and, after her fits, made several attempts to commit suicide. She died in a state of asphyxia during an epileptic fit. The meninges were found turgid with blood, and the spinal marrow softened at its lumbar extremity.

" Case 4. A girl, who became epileptic at thirteen years of age from a fright, was often deranged after the fits: she was sometimes furious; and frequently affected with vertigo.. . She died at nineteen, after many successive fits. On opening the body, a suppurated point was discovered in the white substance of the posterior part of the left lobe of the brain; the spinal sheath was of a brownish colour towards the tenth and twelfth dorsal vertebræ, and the inclosed medullary substance softened at these two points.

" Case 5. A girl was epileptic from birth (owing to her mother having been frightened when pregnant with her), and had fits every fifth day until the age of twenty; when, after a fit, she fell into a lethargy, and remained for an entire month in that state. In the spring of the following year she was five days in the same state, and died after a violent epileptic fit. The arteries at the base of the cranium were cartilaginous and ossified in many points: the sides of the aortic ventricle of the heart were an inch in thickness, whilst the cavity of the ventricle was contracted to from five to six lines. Towards the eleventh and twelfth dorsal vertebræ the spinal sheath was brownish, and the medullary substance softened on the right and left.

" Case 6. A female cook became epileptic at thirty-five years of age, and was melancholy for two or three days after each fit. At forty she died in a state of asphyxia during a fit. The whole external surface of the spinal sheath was studded with small dull white osseous scales, from one line to two lines in diameter. Towards the seventh and eighth dorsal vertebræ, and the lumbar extremity of the spinal marrow, the medullary substance was softened.

"CASE 7. A woman of fifty-three years of age was freightened into convulsions, and remained epileptic. The fits returned every second or third day, and with great violence, until her fifty-sixth year; when, the accessions becoming very frequent for some months, she died after a fit, which left her in a comatose state that continued for five days. Hydatids of different sizes were found from the bulb of the brain to the lumbar extremity of the spinal canal, contained in the sac formed by the sheath. The medullary substance of the lumbar extremity was softened, and the pituitary gland contained a cyst full of a reddish-brown fluid.

"CASE 8. An infant was attacked with convulsion during dentition, which degenerated into epileptic fits. After four years of age they became more frequent; and, when five years and a half old, he had four or five fits every day, and became paralytic. He died at the age of six years and a half. The spinal sheath appeared as if injected, and the medullary substance softened, and of a yellowish hue towards the sixth and twelfth dorsal vertebræ.

"I ought to remark, that these eight cases are not chosen from among many others, with the view of establishing a new theory. Ten epileptics have died in the Salpêtriere, between the 1st of February and the 1st of June. Nine of the bodies were opened; and in seven of these, I found diseased appearance of the spinal marrow, or its coverings. In one, the meninges were as if injected: in two, the arachnoid tunic of the spinal marrow was greyish; and in one, studded with osseous points; in one, hydatids were found in the sac, formed by the spinal sheath, from the bulb of the brain to the lumbar extremity of the rachis. The medullary part of the spinal marrow was softened in different portions of its length, more frequently at its lumbar extremity; in two instances, the softening was less evident; and in two, the softened portions of the medullary substance were changed in colour.

"From these facts, may we not conclude, that some epileptic cases depend on lesions of the spinal marrow, or its coats? This species of epilepsy will be more readily acknowledged, when the influence of the spinal nerves on the functions of locomotion are compared with the violent state of the locomotive system during epileptic fits. These considerations having led me to open the spine of epileptics, the facts justified my suspicions.

"Induced by this induction, I applied four moxas along the spine of an epileptic. The patient was sixteen years of age, and the fits recurred every eight or ten days, and always at the menstrual periods. Since the 22nd of April, the time when the moxa was first applied, this girl has had three fits only, and two menstrual periods have passed without an attack.

"I do not pretend to draw any conclusions from this fact, as the success was not complete; neither can a solitary fact prove any thing. In publishing it, and the result of my dissections, I am desirous of calling the attention of the profession to an object of research, which I regard as so much the more important, as epilepsy is a disease, to the seat of which, we have the means of positive access[*]."

CHEMISTRY.

III.—*Analysis of Opium, particularly of Morphium and Meconic Acid, considered as essential parts of Opium.* By M. Sertuerner, Pharmacopolist at Eimbeck, in the Kingdom of Hanover[†].

"Fourteen years have nearly elapsed since M. Derosne, an apothecary at Paris, examined opium, and published the results of his labours in the *Annales de Chimie*, vol. xlv. I was engaged in an analysis of the same substance much about the same time; but the results of our experiments were so different and so contradictory, that the subject has remained undetermined. Little attention has been paid to my Memoir; it was written in a hurry: the quantities were small upon which I had operated; and some persons had repeated my experiments without success. Convinced of the exactness of my labours in general, although undertaken at an inexperienced age, and desirous of removing contradictions, I engaged myself in a second analysis of this singular vegetable substance; and have had the satisfaction of confirming my former observations and making new ones. It will be seen in the sequel that the method and the observations of M. Derosne in the analysis of opium were not exact; and that he has not discovered the part upon which the efficacy essentially depends; for he has mistaken for this substance, which I call *morphium*, its combination with the *acid of opium*. In making my observations public, I flatter myself that chemists and physicians will derive some benefit from them. They will throw a light upon the characteristics of these two bodies and the constituent parts of opium. I believe also that I have enriched chemistry with the knowledge of a new vegetable acid (the meconic acid), and with the discovery of a new alkaline base, morphium. The latter is a very singular substance, and seems to have some resemblance to ammonia, and which, some day, will serve to explain the other salifiable bases. Although my former observations upon opium and its constituent parts are confirmed, there are also some facts which I have found to be different; but I hope to be pardoned my former errors, when my youth and the small quantities operated upon are taken into consideration.

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[*] *Bulletins de la Faculté de Médecine de Paris,* tome v. p. 424.

[†] *Gilbert's Annalen der Physik, neue folge,* vol. xxv. p. 56.; and *Annales de Chimie et de Physique;* t. v. p. 21.

"1. *Of Morphium.*—1. Eight ounces of dried opium were digested in the heat with several portions of distilled water, until it became no longer coloured. After having evaporated the tinctures, we obtained a translucid extract, which became very turbid on diluting it with water; but with the assistance of heat, or by adding a still larger quantity of water, the transparency of the liquor was restored. The aqueous solution of the extract was saturated with an excess of ammonia, and a substance of a greyish-white colour was precipitated, which formed into translucid granular crystals. These crystals, after being washed with several portions of water, are *morphium*, the efficacious part of opium, combined with a little extract and meconic acid, as will be seen in the sequel of this Memoir.

"2. This substance, after being dried, weighed sixteen drachms. It was saturated with diluted sulphuric acid, in slight excess, precipitated afresh with ammonia, and treated several times with this alkali, in order to separate the extract. But as this could not be effected, the precipitate was reduced to an impalpable powder, and treated several times with a little alcohol, which became very much coloured. By this means I obtained nearly eight drachms of nearly colourless morphium.

"3. The small quantity of morphium which was dissolved by the alcohol, was separated by crystallization. The extracted matter which was contained along with the morphium in the alcohol, as well as in the ammoniacal liquors, was not pure extractive, but a combination of extractive with morphium, of which the latter was the base. It is very soluble in acids and in alcohol; but sparingly so in water. It coloured the salts of iron green, by means of its extractive, and separated from them a part of the oxide by its morphium. As pure morphium is precipitated from its solution in acids in form of a pearly powder, and since it crystallizes in parallelopipeds with oblique faces, I presumed that it is the extractive, combined with the morphium, which changed its form into an almost cubical grained crystallization. This is confirmed by treating this substance with ammonia, which dissolves a part only of the extractive, as it has something of the nature of an acid, always retaining some of the morphium, and making it difficult to separate them completely. Alcohol finished the separation, and dissolved the extractive which remained with the morphium. There is a very great difference between the extractive matter separated by ammonia and that which is separated by alcohol. The first dissolves in water with great facility, because it contains less of the morphium than the brown substance obtained by means of alcohol: in the one, extractive predominates; and in the other, morphium. Hence we give the former, by means of an alcoholic solution of morphium, the appearance of a resinous body, in which the morphium predominates and performs the functions of a base. A concentrated aqueous extract of opium always gives these two combinations when treated with ammonia.

" 4. In order to obtain morphium in its highest state of purity, I dissolved it several times afresh in alcohol, and obtained it, by means of crystallization, entirely colourless, and in regular parallelopipeds with oblique faces. The substance which is obtained by treating opium with alcohol, according to Derosne, crystallizes in prisms, with angles from 30° to 40°, and reddens in a high degree the solutions of iron.

" 5. Pure morphium possesses the following properties:—It is colourless, soluble in small quantities in boiling water, very soluble in alcohol and in ether, and may be made much more so by the application of heat. Its solutions, from which it crystallizes in the above-mentioned forms, are very bitter. The aqueous and alcoholic solutions tinge rhubarb paper brown more strongly than turmeric paper, and restore the blue colour of litmus paper after it has been reddened by acids. It is not ammonia which produces this effect, because pure morphium does not contain any of it, as will be seen in the sequel by treating this substance with caustic potash. It dissolves with facility in the acids, and forms very remarkable neutral salts.

" The *sub-carbonate of morphium* is formed either by exposing morphium to the action of carbonic acid, or by decomposing the solution by sub-carbonate of potash.

" The *carbonate of morphium* crystallizes in short prisms.

" The *acetate of morphium* crystallizes in small rays, and is very soluble.

" The *sulphate of morphium* is very soluble, and crystallizes in ramifications.

" The *muriate of morphium* forms plumose or radiated crystals, and is more sparingly soluble than any of the other salts with morphium; and, if the evaporation be pushed too far, cools into a brilliant silver-white mass.

" The *nitrate of morphium* crystallizes in rays, proceeding from a common centre.

" I have not formed the *meconate of morphium*; but the *sub-meconate* crystallizes in prisms; and I obtained it by treating the aqueous solution of opium with alcohol. A large portion of water is necessary to dissolve it and separate it entirely from opium.

" The *tartrate of morphium* crystallizes in prisms, very similar to those of the preceding salt.

" These different salts formed with morphium appeared to me to be very hurtful to the animal constitution; for, after tasting them, I was always troubled with a head-ache. They are very soluble in water; almost all have a micaceous brilliancy, and very soon effloresce when exposed to the air.

" In the order of salifiable bases, morphium will stand after ammonia, because it is disengaged from all its combinations by this alkali. It will occupy the last place among the alkalies, from which it is distinguished in having less specific gravity, and in being incapable of saponifying oxydized oils. It has less affinity for acids than ammonia, and even than magnesia; but it decomposes most of the metallic salts, as the sulphate, the muriate, and the acetate of iron, several of the salts of mercury, lead, and copper.

" The acetate of morphium loses its green colour by means of morphium, and, no doubt, forms with it a triple combination, as with ammonia. It combines with the carbonic acid of the atmosphere and with extractive, as the other salifiable bases.

" Morphium easily melts by the application of heat, and then has some resemblance to melted sulphur: it crystallizes upon cooling. It burns very quickly; and, by heating it in a close apparatus, a blackish resinous substance may be obtained, of a peculiar odour. It combines with sulphur when heated; but is at the same time destroyed, and forms hydro-sulphuric acid. I have not had time to determine exactly the elements of morphium: but there is no doubt that they are oxygen, carbon, and hydrogen; perhaps also azote. The galvanic pile produces little effect upon morphium, even in making use of a globule of mercury. The globule, nevertheless, seemed to enlarge and alter in consistence.

" II. *Of the Effects of Morphium on the Human Body.*—6. The most remarkable property of morphium is the effect which it produces upon the animal œconomy. That I might ascertain this with exactness, I tried experiments upon myself, as well as upon some other persons, being convinced that experiments made upon the lower animals do not afford any certain results.

" It is necessary to notice in a particular manner the terrible effects of this new body, in order to prevent accidents; for it has been publicly declared that this substance has been given in considerable quantities to several persons without producing any remarkable effect. If it were really morphium that was given in these cases, it would seem that it could not have been dissolved by the gastric juices. My former experiments induce me to mention expressly that this substance should only be given when dissolved in alcohol, or in a little acid; because it is very sparingly soluble in water, and that consequently it cannot be readily acted upon in the stomach without the medium of these liquids. That I might ascertain with exactness my own sensations, I engaged three persons, none of whom were more than seventeen years of age, to take the morphium along with me. But, warned by the effects which I had formerly experienced, I gave to each only half a grain, dissolved in half a drachm of alcohol, diluted with some ounces of distilled water. A general redness, which might even be perceived in the eyes, covered the whole body, but particularly the cheeks; and the animal powers seemed to be raised. We then took, half an hour afterwards, another half grain of morphium. The effects already mentioned increased considerably, and we experienced a transitory inclination to vomit, with a sense of stunning in the head. Without waiting the issue of this, we swallowed, a quarter of an hour afterwards, another half-a-grain of morphium, in coarse powder, with some drops of alcohol, and half an ounce of water. The effect of this was instantaneous upon the three young men; they experienced an acute pain in the stomach, a sense of weakness, with general stiffness, and faintness. I myself experienced similar effects; and, upon lying down, fell into a kind of *dozing reverie*, attended with a sensation of throbbing in the extremities, but chiefly in the arms.

" These evident symptoms of poisoning, and especially the faint state of the young men, occasioned me so much uneasiness, that, without any consideration, I swallowed about six or eight ounces of very strong vinegar, and gave the same quantity to the others. So violent a vomiting succeeded, that one of the young men, of a delicate constitution, and whose stomach was entirely empty, found himself in a very miserable condition. It appeared to me that the vinegar communicated to the morphium this violent emetic property.

" I then gave this young man some carbonate of magnesia, which soon checked the vomiting; and he passed the night in profound sleep. Next day the vomiting returned; but soon ceased upon taking a strong dose of the carbonate of magnesia: but the want of appetite, the constipation, stiffness, and pain in the head and stomach, did not cease for some days.

" So, if we may judge from this rather disagreeable experiment, morphium, even in small doses, is a violent poison. Its combinations with the acids may, perhaps, possess still more powerful effects. I am of opinion that the last half grain had a more energetic action, from arriving in the stomach in a concentrated state, and being there dissolved.

" The other constituent parts of opium do not possess any of the above-mentioned properties; and it appears to me that the principal effects of opium depend upon the pure morphium. It belongs to medical men to investigate this subject. Hitherto the combinations of morphium with meconic acid only have been employed. We may also expect efficacious effects in several diseases from the different salts of morphium. From my own experience, I am able to say, that a very violent toothache, which would not yield to opium, gave way upon the application of a weak alcoholic solution of morphium.

" The meconate of morphium, which constitutes the efficacious part of opium, being rather insoluble in water, pure alcohol only ought to be employed for making the tinctures of opium. These tinctures ought also never to be cooled too much; because, when this is the case, morphium, combined with some of the resinous parts, is precipitated from the extractive and the meconic acid; and hence such remedies are less efficacious at a very low, than at a moderate temperature. It would be desirable that medical men, competent for the task, would soon engage themselves upon this subject; because opium is one of our most powerful remedies.—*(To be continued.)*

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I.—SOCIETIES.

Society for Relief of Widows and Orphans of Medical Men in London and its Vicinity, under the Patronage of His Royal Highness the DUKE *of* KENT, *K.G. K.G.C.B., &c.*

OFFICERS and DIRECTORS for the Years 1817-18.

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HONORARY SECRETARY,
Mr. CHAMBERLAINE.

SECRETARY,
Mr. WATSON.

At the Anniversary Festival, on Wednesday, October 29th, 1817, at Albion House, Aldersgate Street, His Royal Highness the DUKE of SUSSEX in the CHAIR, the following state of the Society's fund, for the last year, ending September 10th, 1817, was reported:

1816—Receipts...£1,011 12*s.* 9*d.* Disbursements...£599 13*s.* 4*d.*
1817—Receipts...£967 6*s.* 5*d.* Disbursements...£529 17*s.* 8*d.*

This Society was instituted in the year 1788. The capital is now £24,350 Three per Cent. Consols Annuities, and £200 Navy Five per Cents. The sum of £5815 has been distributed among the Widows and Orphans of deceased members of this Society, some of whose families have been left without any other provision whatsoever. The number of members is now three hundred and twenty-six. JOHN WATSON, Secretary, *Carlisle Street, Soho Square.*

II.—PATHOLOGICAL.

M. Royer Collard has reported the case of a melancholic, who believed himself the object of persecution by a powerful triumvirate. He complained that, about three years before, he had swallowed an iron fork, in one of his paroxysms of melancholy. He was examined several times to find if any foreign body could be felt; but none was detected. His digestive powers were generally good, and the colour of his stools natural. At length he hung himself with a bandage which had been applied to keep on a blister. On opening the body, in the stomach a varnished iron fork was found, the prongs of which were closely compacted together. The stomach was quite in a healthy state, as were also all the other viscera. —*Biblioth. Med. (Janvier,* 1817).

III.—MEDICAL.

Indian Cure of Gonorrhœa and Gleet.—MR. CRAUFORD, a surgeon in the service of the Honourable East India Company, on the recommendation of a Hindoo, has used the Piper *Cubeba* in gonorrhœa with the most beneficial results. "The mode of exhibiting it is to give a dessert spoonful three or four times a day, in about three ounces of water. The discharge stops in about twenty-four hours. It occasions moderate purging, flushing, and heat in the hands; but no fever. In one or two cases it produced swelled testicle. It succeeded equally with Europeans and natives," *(Javanese)*—*Edin. Med. and Surg. Journ., Oct.*

Employment of Nux Vomica in Paralysis.—Mr. Thomson, when lately in Paris, was shewn, by Dr. Fouquier, two cases of paralysis under treatment with the nux vomica. In both instances, the patients had recovered the power of motion in the paralytic limbs; and in one of them, the speech, which was lost previous to the admission of the patient into the hospital (la Charité), was completely restored. The remedy was exhibited in the form of extract; and, at the time of Mr. Thomson's visit, was given to the extent of eight grains for a dose three times a day. Dr. Fouquier stated, that it had rarely failed of relieving the disease when the head was not materially affected; but it was most successful in cases of paraplegia.

The extract is prepared by macerating the nux vomica, pulverized in rectified spirit for two or three days; and then evaporating the filtered tincture in close vessels at a very moderate temperature. When properly prepared, the extract is intensely bitter.

Vesicatory.—Dr. Alibert (*Nouveaux Elemens de Therapeutique*) recommends the following as a useful formula:—

℞ Farinæ Secalis,
—— Hordei,
Pastæ, una quantum satis:

ad debitam consistentiam, ope aceti rubri, redigatur massa, cujus superficies triginta vel quadraginta granis Cantharidum conspergitur.

Huic vesicanti majorem præbet energiam additio aliquot guttarum alcoholicæ Cantharidum tincturæ.

Effects of Inhaling the Vapour of Sulphuric Ether.—Effects very similar to those produced by nitrous oxide, result from inhaling the vapour of ether mixed with common air. A convenient mode of ascertaining the effect is obtained by introducing a tube into the upper part of a bottle containing ether, and breathing through it: a stimulating effect is at first perceived at the epiglottis, but soon becomes very much diminished; a sensation of fulness is then generally felt in the head, and a succession of effects similar to those produced by nitrous oxide. These are considerably augmented by lowering the tube into the bottle, so as to admit of more ether being inhaled at each inspiration.

In trying the effects of the etherial vapour on persons who are peculiarly effected by nitrous oxide, the sensations were unexpectedly found to be exactly similar; and this was even the case in a person who always feels a depression of spirits on inhaling the nitrous oxide.

It is necessary to use caution in making experiments of this kind. By the imprudent inspiration of ether, a gentleman was thrown into a very lethargic state, which continued with occasional periods of intermission for more than thirty hours, and a great depression of spirits; for many days the pulse was so much lowered, that considerable fears were entertained for his life.—*Journal of Science and the Arts, Oct.*

IV.—CHEMICAL.

Chlorine.—Dr. Ure of Glasgow, from the results of a series of elaborate experiments, conceives he has fairly established the old theory of Berthollet and Lavoisier regarding the composition of this substance, in opposition to that of Sir H. Davy, now almost generally admitted. His object was to obtain water or its elements from dry and recently sublimed muriate of ammonia; and this he has effected by transmitting such a muriate in vapour through lamina of pure silver, copper, and iron, ignited in glass tubes; water and hydrogen were copiously evolved, while the pure metals were converted into metallic muriates.

Chenopodium Vulvaria.—M.M. Chevalier and J. L. Lasseigne have analysed this plant, and obtained the following ingredients:—1°. Free sub-carbonate of ammonia, resulting evidently from an animal matter in a state of putrefaction, although in the living plant; 2°. albumen; 3°. osmazone; 4°. a small quantity of aromatic resin: 5°. a bitter matter soluble in water and alcohol; 6°. Nitrate of potash in great quantity; 7°. some acetate and phosphate of potash; 8°. tartrate of potash. The plant, when dried, loses its fœtor, and acquires a slightly aromatic odour; but it, nevertheless, still exhibits the presence of ammonia in it, by producing white vapours with muriatic acid.—*Journ. de Pharmacie*, Sept. 1817.

Roe or Eggs of the Pike.—Vauquelin has lately analysed these eggs, and obtained the following as their components:—

1°. Much albumen; 2°. an oily matter; 3°. an animal substance, having some relation to gelatine; 4°. Muriates of potash, soda, and ammonia; 5°. Phosphate of potash, lime, and magnesia; 6°. Sulphate of patash; 7° Phosphorus.

The charcoal procured by burning these eggs in a crucible, on being exposed to a high temperature undergoes a species of fusion, and assumes the form of a paste, owing to the production of phosphoric acid in considerable quantity: and that this arises from the presence of free phosphorus in these eggs, Vauquelin considers probable, from the following circumstances. The eggs before being burnt were well washed with a quantity of water sufficient to take up all the soluble phosphates; and that it did not proceed from the phosphate of lime, is evident, because acid phosphate of lime was found after the combustion.

"The presence of phosphorus in these eggs," adds Vauquelin, "must therefore be admitted; and in this respect, and in many others, there appears to be a great analogy between the composition of the milt and eggs of fishes, and that of the substance of the brain, the spinal marrow, and the nerves."—*Journal de Pharmacie*, Sept. 1817.

Preparation of Morphium. — The following process of *M. Robiquet* for the preparation of this substance being more simple than that proposed by *M. Sertuerner*, we extract it for the use of such of our readers as may wish to prepare morphium, in order to examine its effects upon the animal œconomy.

"A concentrated infusion of opium is to be boiled with a small quantity of common magnesia for a quarter of an hour. A greyish deposit in considerable quantities is formed; this is to be filtered and washed with cold water, and, when dry, acted on by weak alcohol for some time at a temperature beneath ebullition. In this way very little morphium, but a great quantity of colouring matter, is separated.

"The solid matter is then to be filtered, washed with a little alcohol, and afterwards boiled with a great quantity of highly rectified alcohol; it is to be filtered whilst hot, and the spirit on cooling deposits the morphium in crystals, and very little coloured. This is to be repeated two or three times with the residuum, and the morphium obtained by each filtration is less and less coloured."

V.—PHARMACEUTICAL.

Preparation of Extracts.—In the preparation of vegetable extracts, in evaporating diabetic urine, &c. the last portion of water is expelled with most difficulty, and the last stage of the process seems most injurious to the product. To remedy these obstacles, Mr. Johnson of Lancaster advises that small quantities of rectified spirit be added occasionally, by which means this stage is shortened, and less injury is sustained."—*Annals of Phil.* Oct.

VI.—BOTANICAL.

Camphor Tree of Sumatra.—Plants of this tree were raised at Calcutta from seeds sent from *Tassanooly* by Mr. Prince, the resident at that station; but they did not outlive the subsequent cold season. From the examination of the seeds, however, which were in a perfect state, it is evident that the plant is not a laurus, as has generally been supposed; but belongs to the genus *Dryobalanops* of the younger Gærtner: and has been named by T. Colebrooke, Esq. Dryobalanops *Camphora.* It is a large tree, a native of forests on the north-western coast of *Sumatra.* The camphor is found in conjunction with essential oil in the heart of the tree, in portions of a foot or a foot and a half, at certain distances. The tree, which is first cut to the heart at fourteen or eighteen feet from the ground, to discover the camphor, is afterwards felled and cut in junks of a fathom long, which are again split, and the *camphor* is found in the heart, occupying a space in circumference of the thickness of a man's arm. The quantity found in a middling-sized tree, is eleven pound; and in large trees, double the quantity —*Asiatic Researches,* vol. xii.

Rheum Palmatum.—Mr. Moorcroft, in a journey to Lake Manasarovara in Undes, in Little Thibet, discovered the rhubarb plant growing wild, on the side of a mountain near the village of *Niti.* "I cut up," says Mr. Moorcroft, "the roots of many large plants. The leaves in several instances sprung from a little sound bark, which surrounded a large portion that was rotten. Those which were hard, were detached from the sound part of the bark near the surface of the ground; but these shrunk much in drying, and had but little of the rhubarb taste, colour, or smell, whilst the sound fragments of the root of the preceding year were marbled like the cut surface of a nutmeg: some were yellow, and had the peculiar qualities of the rhubarb, with a very large proportion of bright colouring matter which stained the fingers of a gold tint:

but I presume the best time for taking up the roots is September." On returning, however, in September, after the plants had run to seed, Mr. Moorcroft cut up many roots, but found the whole more or less spongy and rotten.—*Asiatic Researches*, vol xii.

Acer Pseudoplatanus.—At Carronpark, in the county of Stirling, on March 7 and 8, 1816, Mr. W. A. Cadell, made the following experiments on the sap of this tree. Incisions were made in the bark of the trunk, five feet from the ground. The sap was quite transparent and colourless, and flowed freely, so as to fill in two or three hours a bottle capable of containing a pound of water. At night, the weather being cold, the sap froze, and hung from the bark in isicles. Three bottles and a half were collected, weighing in all 3lb. 4oz. Some days after this the flow of the sap from the incisions ceased entirely. In a few weeks after the tree was cut down.

The sap was evaporated by the heat of a fire, and gave 214 grains of sugar, in colour resembling raw sugar; in taste sweet, with a peculiar flavour. After being kept 15 months, this sugar was slightly moist on the surface.

The quantity of sap employed in the evaporation was 24960 gr. (3 lb. 4 oz.); the quantity of sugar obtained from it was 214 gr.: therefore in smaller numbers 116 parts of sap yielded by evaporation one part of sugar.

VII.—NOTICE OF LECTURES.

Mr. CURTIS, Aurist to H. R. H. the Prince Regent, and Surgeon to the Royal Dispensary for the Diseases of the Ear, will commence his next Course of Lectures on the Anatomy, Physiology, and Pathology, of the Ear, on Thursday, November 13th, at the Royal Dispensary, Carlisle Street, Soho Square, at 7 o'Clock in the Evening.

VIII.—LITERARY NOTICES.

Dr. Johnson, of Portsmouth, has just completed a condensed translation of Guilbert's New Work on Gout, which is a transcript of the celebrated article on Gout in the "Dictionnaire des Sciences Medicales." It forms an Appendix at the end of Dr. Johnson's Work, which will appear on the 1st of December, under the following title: "The Influence of the Atmosphere, more especially the Atmosphere of the British Isles, on the Health and Functions of the Human Frame; embracing Observations on the Nature, Treatment, and Prevention, of the principal Diseases resulting from sudden atmospherical transitions," &c.

Sir John Byerley is preparing for publication a Translation of Professor Orfila's New System of Medical Chemistry.

In the press, Two Letters on the contested Origin, Nature, and Effects, of the Poor Laws.

In the press, and will be published in a few days, the Transactions of the Association of the King and Queen's College of Physicians in Ireland.

Dr. Clutterbuck will shortly publish the Second Part of an "Inquiry into the Seat and Nature of Fever."

A METEOROLOGICAL TABLE,

From the 21st of September to the 20th of October 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.	Barometer. Min.	Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29 . 72	29 .67	61	46		NNW.	1 Cloudy.. 2 Sun.
22	29 66	29 64	59	50	17	NNW.NE.	1 Sun... 2 Cy.. 3 R..
23	29 70	29 67	58	42	02	NE.	1 R. 2 Cy.. 3Sun. 4Mn.
24	29 50	29 23	56	48		Vble.	1 2 4 Cloudy,. 2 Sun.
25	28 92	28 73	68	50	02	S..	1 Cy.. 2 Sun.. 4 Rain.
26	28 63	28 57	59	46	08	SW....	1 Sun.. & Showers.
27	29 06	28 86	56	44		SW....	1 Sun....
28	29 49	29 25	56	40		SW...	1 Sun.. & Showers.
29	29 66	29 64	54	34	01	W..	1 Sun... & Showers.
30	29 73	29 66	53	29		W.NE.	1 Sun...
1	29 66	29 60	52	29		SW...WNW..	1 Sun... 2 Sun. & Sh.
2	29 77	29 75	48	34		NW...	1 Sun...
3	29 95	29 88	51	35		NW..N..	1 3 Sun... 2 Cy.. 4 Mn...
4	30 04	30 04	55	34		N..NE..	1 Sun..
5	30 05	30 04	54	36		NE.EbN	1 3 Cy.. 2 Sun. 4 Stl..
6	30 04	30	55	37		EbN..	1 Cloudy...
7	29 98	29 94	56	42		E.	1 Cloudy..
8	29 90	29 83	55	45		E.	1 Cloudy..
9	29 79	29 74	55	45		E.	1 3 4 Cy.. 2 Sun...
10	29 75	29 72	54	36	06	E.	1 Cy... 4 Sh. & Starl..
11	29. 83	29 80	47	38	02	NW..	1 Sun.. & Showers.
12	29 94	29 88	51	36	05	NNW..	1 Sun. & Showers.
13	29 98	29 94	50	47		N..	1 Sun.. 2 Cloudy..
14	29 90	29 83	54	43		NW..	1 3 4 Cy.. 2 Sun.
15	29 79	29 70	51	38	16	NbE.	1 Showers.. & Sun.
16	29 87	29 85	48	36	15	ENE..	1 Showers.. & Sun..
17	29 87	29 82	48	37	06	N.	1 Sun... 2 Cy.. 3 Sh.
18	29 78	29 77	50	40	04	NE..	1 Showers. 3 Cloudy..
19	29 79	29 78	48	39	06	ENE.	1 Cloudy.. 4 Showers
20	29 78	29 68	49	39	11	NbW.	1 Sun.. 3 Showers..

The quantity of rain during the month of September was 1 inch 25-100ths.

Observations on Diseases at Richmond.

The diseases under treatment were Aphthæ, Asthma, Cholera, Cynanche Parotidœa, Cynanche Tonsillaris, Diarrhœa, Dyspepsia, Entrodynia, Febris Catarrhalis, Febris Symplex, Gastrodynia, Hæmoptosis, Icterus, Menorrhagia, and Urticaria.

A case resembling Phthisis pulmonalis, of eight months standing, was speedily cured by purgatives.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of SEPTEMBER to the 19th of OCTOBER, 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Guage	De Luc's Hygrom. *Dry.*		*Damp.*		Winds.		Atmo. Variation.		
	20	57	63	56	30	30				3	3	WSW	W	Fine	Clo.	——
	21	58	63	53	30	29^{9}		–		3	3	NE	NE	Clo.	Fine	——
	22	55	58	51	29^{9}	29^{8}	.04			2	1	NNE	NNE	Fine	——	——
	23	59	63	53	29^{8}	29^{8}				1	2	NNE	NNE	Clo.	Fine	——
	24	54	60	55	29^{9}	29^{8}				3	3	NE	S	Clo.	Fine	——
	25	62	64	55	29^{6}	29^{1}				5	3	S	S	Rain	Clo.	Fine
	26	58	57	52	29^{2}	29^{1}	.09		0	3	0	S	SW	Rain	Sho.	Fine
	27	57	58	50	29^{4}	29^{6}		-1	0		0	SW	WSW	Fine	Rain	Fine
	28	57	59	43	29^{8}	29^{9}	.10	0	1	0		SW	W	Fine	——	——
	29	47	51	47	29^{9}	29^{9}		2	1			SW	SW	Clo.	Fine	Clo.
	30	49	51	45	30	30	.06	1	0		0	NW	NE	Fog	Fine	——
	1	48	55	38	29^{8}	29^{9}		0	3	0		NE	NW	Fine	——	——
	2	41	48	36	30	30^{1}		3	4			N	NW	Fine	——	——
◐	3	39	50	39	30^{1}	30^{1}		4	4			NE	NNE	Fine	——	——
	4	43	50	39	30^{1}	30^{1}		3	3			NNE	NE	Fine	——	——
	5	46	53	40	30^{1}	30^{2}		2	2			N	NE	Fine	——	——
	6	47	51	45	30^{2}	30^{2}		2	2			NNE	NNE	Fine	——	——
	7	50	57	41	30^{1}	30^{1}		2	2			Eva	Eva	Fine	——	——
	8	44	50	43	30^{1}	30		3	3			E	E	Fine	——	——
	9	47	53	45	30	29^{9}		2	2			E	Eva	Fine	Clo.	Fine
●	10	50	56	46	29^{9}	29^{9}		2	2			N	N	Fine	——	Clo.
	11	49	50	42	29^{9}	30		2	2			NNW	NNW	Fine	Sho.	Fine
	12	48	52	42	30	30^{1}		2	2			N	N	Fine	Sho.	Fine
	13	48	53	40	30^{2}	30^{2}		2	2			N	NNE	Fine	Rain	Fine
	14	44	50	45	30^{2}	30^{1}		2	1			NE	N	Fog	Clo.	Fine
	15	48	49	40	30	29^{9}		0	0	0	0	NNW	N	Clo.	Rain	Fine
	16	46	44	42	29^{9}	29^{8}	.21	0	0	0	0	N	NE	Rain	——	——
◗	17	45	47	40	30	30	.54	0	0	0	0	N	NE	Rain	Hail	Fine
	18	44	44	40	29^{8}	29^{9}	.09	0	0	0	0	NE	NE	Rain	——	Clo.
	19	44	47	44	29^{9}	29^{9}	.08	0	0	0	0	NE	ENE	Rain	——	——

The quantity of Rain fallen in the month of September, is 61-100ths of an inch only.

BILL OF MORTALITY *from September* 16, *to October* 14, 1817.

		Sept. 23.	*Sept.* 30.	*Oct.* 7.	*Oct.* 14.	
CHRISTENED.	Males....................	224	253	152	291	
	Females..................	210	236	138	267	
		434	489	290	558	Total, 1771.
BURIED..........	Males....................	157	185	136	198	
	Females..................	157	174	158	189	
		314	359	294	387	Total, 1352.
OF WHOM HAVE DIED...	Under 2 Years.	92	96	73	123	
	Betw. 2 and 5	29	36	33	43	
	5 and 10	12	21	16	17	
	10 and 20	6	12	12	13	
	20 and 30	21	32	26	28	
	30 and 40	29	37	29	31	
	40 and 50	36	34	31	38	
	50 and 60	32	31	26	20	
	60 and 70	25	29	25	38	
	70 and 80	17	21	18	25	
	80 and 90	13	8	4	9	
	90 and 100	2	2	1	2	
SMALL POX................		18	23	22	32	Total. 95

A REGISTER OF DISEASES

Between SEPTEMBER 20*th*, *and* OCTOBER 19*th*, 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	13		Erythema *læve*	2	
Abscessio	19		——— *papulatum*	2	
Acne	4		Exostosis	1	
Amaurosis	2		Febris *intermittent*	5	
Amenorrhœa	14		—— *catarrhalis*	25	
Amentia	4		—— *Synocha*	9	
Anasarca	21	3	—— *Typhus mitior*	31	1
Anorexia	4		—— *Typhus gravior*	2	1
Aphtha *lactentium*	5		—— *Synochus*	34	1
Apoplexia	3	2	—— *remit. Infant*	11	
Ascites	14	2	Fistula	3	
Asthenia	37	1	Fungus	2	
Asthma	34	3	Furunculus	3	
Asphyxia	1		Gastrodynia	43	1
Atrophia	4	1	Gonorrhœa	15	
Bronchitis *acuta*	2		Hæmatemesis	1	
——— *chronica*	9	2	Hæmaturia	1	
Calculus	2		Hæmoptöe	11	3
Caligo	1		Hæmorrhois	10	
Cancer	4		Hemiplegia	3	1
Cardialgia	10		Hepatalgia	3	
Catarrhus	58		Hepatitis	21	1
Cephalalgia	20		Hernia	4	
Cephalæa	4		Herpes *Zoster*	3	
Chlorosis	2		——— *circinatus*	2	
Chorea	3		Hydrarthyrus	2	
Cholera	14		Hydrocele	3	
Colica	12		Hydrocephalus	10	7
—— *Pictonum*	2		Hydrothorax	3	1
Convulsio	9	2	Hypochondriasis	5	
Coryza	3		Hysteralgia	2	
Cystitis	1		Hysteria	9	
Cynanche *Tonsillaris*	31		Hysteritis	2	
——— *maligna*	2		Icterus	3	
——— *Trachealis*	1		Impetigo *figurata*	1	
——— *Parotidea*	5		——— *erysipelatodes*	2	
Diarrhœa	78	1	——— *rodens*	1	
Dysenteria	13		Ischias	1	
Dyspepsia	63	1	Ischuria	3	
Dyspnœa	17		Leucorrhœa	18	
Dysphagia	2		Lithiasis	2	
Dysuria	6		Lumbago	3	
Ecthyma	2		Mania	8	
Eczema	3		Melancholia	1	
Eneuresis	3		Menorrhagia	18	
Enteritis	2		Miliaria	8	
Entrodynia	21		Morbi *Infantiles**	85	2
Epilepsia	5		Morbi *Biliosi*†	55	
Epistaxis	6		Neuralgia	1	
Erysipelas	4		Obstipatio	16	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Odontalgia	10		Pyrosis	4	
Opththalmia	18		Rheumatismus *acutus*	38	
Otalgia	7		——— *chronicus*	46	
Palpitatio	2		Rubeola	3	
Paracusis	2		Scabies	57	
Paralysis	5		Scarlatina *simplex*	8	
Paraplegia	1		——— *anginosa*	8	
Paronychia	4		Scirrhus	3	
Pericarditis	1		Scrofula	11	1
Peripneumonia	7		Spasmi	6	
Peritonitis	9		Splenitis	1	
Pertussis	35		Strictura	3	
Phlogosis	12		Strophulus *intertinctus*	3	
Phrenitis	2		——— *volaticus*	1	
Phthisis *Pulmonalis*	29	7	Syncope	2	
Plethora	4		Syphilis	37	
Pleuritis	23		Tabes Mesenterica	4	1
Pleurodyne	8		Tremor	1	
Pneumonia	21	2	Vaccinia	54	
Podagra	2		Variola	33	6
Porrigo *scutulata*	1		Vermes	31	
——— *favosa*	6		Vertigo	42	
Prolapsus	3		Urticaria *febrilis*	3	
Prurigo *mitis*	6		——— *evanida*	4	
——— *formicans*	1				
——— *senilis*	6		Total of Cases	1749	—
Psoriasis *guttata*	3		Total of Deaths		54

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

Much alarm has lately pervaded the public mind regarding the existence of an infectious and dangerous fever in the Metropolis. The register of the *Medical Repository* contains the report of some of the most extensive institutions for the relief of the sick poor, as well as those of several eminent private practitioners; and by reference to it, we are happy in remarking, that no foundation exists for alarm. The *synochus* form of fever has rather increased; so has *Typhus mitior*. In some districts, it is remarked by one of our most judicious reporters, the latter is frequent; but, in general, it is very mild and chiefly confined to the poor; and hence he appositely designates it *Febris pauperum*. In two cases, delirium occurred, with much of the character of mania; but which gradually went off as the strength returned.

A case of *Chorea* was in a subject which, in the last Report, was affected by *Epilepsia*. Mercurials, cathartics, and tonics were used with but little effect; but a cure is nearly perfected by doses of a drachm of oil of turpentine. The patient was a child between nine and ten years of age.

The fatal case of *Scrofula* was a child who had for a long time scrofulous ulcers and enlarged mesenteric glands.

A case of *Ascites*, which proved fatal, succeeded a violent hæmorrhage from the lungs.

A case of *Anasarca* caused death by gangrene supervening.

Two fatal cases of *Asthma* were accompanied with anasarca.

were made. In particular cases, and especially at a later period, it has been used considerably stronger, with equal portions of the two acids, and with three parts muriatic to two of nitric, the quantity of acid being increased to twenty ounces in twenty gallons of water, and even to two ounces to the gallon.

Having thus noticed the composition and manner of using the bath, it is desirable that the general effects should be next specified, according to the different proportions of the acids to each other, to the water, and to the surface of the body exposed to its influence: but this becomes exceedingly difficult, if not impossible, from the circumstance of its not producing any perceptible effect on many persons on whom it has been tried, in whatever proportions it has been used, except what might be equally attributed to the warm water alone. I beg, however, not to be misunderstood. I do not mean to imply that the remedy has no powers; on the contrary, it does occasionally produce particular effects which are not usually attributed to water alone; yet I wish to give it as my opinion, that no dependance can be placed on any particular proportion, and that it is very uncertain in its operation: although I am disposed to believe, what I think many will as willingly concede, that the larger the surface to which it is applied, provided it be not of a strength to affect the skin, the more certain will be its effect. It naturally follows, as a conclusion, that I can have little or no reliance upon simple immersion of the feet and hands. At present I recommend the bath, where there are no abraded surfaces, to the whole body, except the head, in the proportions of half an ounce to an ounce of the equally-mixed acids to a gallon of water, at the temperature of 90° to 95°, according to the strength of the patient. If he have not strength to bear a warm bath of that heat for fifteen or twenty minutes, or the use of it is inconvenient, I desire the person to sit down in it; and if it be used with the view of relieving pains in the legs and thighs, I sometimes confine myself to the immersion of the parts affected.

I have said the remedy sometimes produces no effect, or a permanent effect which can be discovered the day after its use; yet the complaint for which it has been recommended shall slowly subside or disappear, whilst in other instances it shall remain stationary, or gradually get worse. In all these cases I am aware it may be said that no effect has in reality been produced, but that nature has caused the amendment or deterioration by her own efforts, either properly or improperly directed: but I dissent from this proposition, because I have seen in many of these cases the good or bad result too evidently depend on the use of the remedy, not to believe that it had a principal share in producing it.

In general, the acid bath increases the quickness of the pulse, causes, like the warm bath alone, a general relaxation of the body, and, if continued, may produce syncope. On coming out of the bath, a variety of sensations, in the same manner, may or may not supervene; when it agrees with the patient, there is no perceptible effect, save a greater redness of the skin than what the warm bath occasions. In others, there is swimming of the head, nausea and even absolute sickness, general uneasiness, and, in several cases where there has been a predisposition to it, the testicle has suddenly swelled, become painful, and even inflamed; and this has again occurred on a repetition of the bath after a certain interval of time. The repeated use of the bath sometimes occasions a degree of general excitement, the pulse quickens, the tongue becomes white, the patient feels uneasy, or, as he expresses it, a little feverish: in such a case it must be discontinued. In others, after a continued use of it, the patient looks pale, loses flesh, and is certainly debilitated. In some cases the immersion at once produces a sensation of the mouth in an increase of saliva, and in others the flow of it is more permanently increased: on examination, the gums look red and swelled, although not affected in the same way as by mercury, neither does the mouth emit the same fœtor. This state of the mouth and the increased flow of saliva must be considered as symptoms which do not occur after the use of the warm bath; but there is another and principal effect, which much more commonly, indeed I may say generally, follows its use; that is, a greater degree of regularity and increase in the alvine evacuations, and sometimes a greater desire for passing urine, than has been experienced for some time, although there may not be an increase in the secretion of urine. As Dr. Scott has truly remarked, in people who are disposed to a naturally large secretion of bile, the quantity for the time seems increased, and may require the aid of purgatives for its removal. In those where the secretion of bile appears to be deficient, in consequence of derangement in the action of the liver, its effects are in many instances more remarkable than those I have observed to follow the use of other remedies: it gradually increases the secretion of bile, restores in consequence the proper action of the intestinal canal, the evacuations become more regular, more natural in colour and consistence, and the functions of the digestive organs are altogether improved. In some cases it even proves completely purgative. I am not, however, prepared to say that this happy change, when it does occur, will continue; on the contrary, I am disposed to believe it is only a temporary amendment; and that, when there is truly organic disease or derangement of structure, these good effects will soon cease, although they may, after an interval of time, be again induced by a repetition of the remedy.

In one case this was shewn in a remarkable degree. The patient had had the Walcheren fever during the expedition to that island, and had suffered ever since from visceral disease, with great and solid enlargement of the abdomen; his bowels were very irregular, an evacuation taking place only once in two or three days. Shortly after he had commenced the use of the bath, the bowels became regular every day, and continued so for some time; but they gradually returned to their former state, although the bath was continued, and the man, finding that no permanent benefit was obtained, preferred going home to his friends in the country.

In another case the patient had been ten years at the Cape of Good Hope, had suffered considerably from inflammation of the liver, and for the last five years had been constantly unwell. He laboured under severe pain in the epigastric and both hypochondriac regions, which was much increased at intervals; he was unable to lie on the left side, and had occasional spasms of the abdominal muscles, with so great a soreness of the surface as hardly to allow the slightest pressure. There was a sense of great weight in the right hypochondrium, a sallowness of countenance, loss of appetite, and general appearance of ill health.

This man took a variety of medicines, principally mercury and laxatives, as his bowels were always irregular and confined, and the warm bath was used to try the comparative effect of it and the acid bath; but, although persisted in for six weeks with much benefit, still it had no effect on the bowels. At the end of this period the acid bath was used instead of the warm bath, and the effects on the bowels were observable the next day, and have continued, with evident advantage to the patient.

This effect, which is certainly the most constant of any which has been yet observed, is still, however, not general. In many persons it does not take place, and in these it does not appear to be useful; so that we may, I suspect, attribute any efficacy it possesses, especially in the cure of bilious complaints, to its power of increasing the secretion from the liver and intestinal canal.

The soreness of the mouth occurred in a few instances, not more than six, on whom it was tried, under my immediate observation, and then not to any extent, which renders it doubtful whether that state of the gums arose from any specific effect of the acid, or whether it simply took place in consequence of the increased general excitement which ensued from its use after mercury had been previously and frequently employed; which was the case in four of the six instances alluded to. In the fifth and sixth, the gentlemen who used it for derangement of the functions of the liver, as was supposed by their medical attendants, had not taken mercury previous to using it, except as an occasional purgative; and they complained of its rendering their gums sore: but it was not carried to any satisfactory extent. I have since seen the mouth affected in several cases; but, in all, the patients had taken considerable quantities of mercury for the cure of their complaints, although in some a year had elapsed since they had omitted it. But whether it be dependant on this cause, or whether it be the specific effect of the acid, is not sufficiently ascertained to induce us to consider it as a regular effect of the remedy which may be naturally expected when its use is persisted in to a certain extent.

Sir James M'Grigor, when surgeon of the 88th regiment in India, in the years 1799 and 1800, tried the nitric acid bath, alone and in conjunction with other remedies, in a great variety of cases, and with the best effect. On referring to the papers he has been so good as to allow me to read, I find that at that period he had formed nearly the same opinion of its effects as I have done more lately. He used it generally of a strength to irritate, and to turn the soles of the feet and the nails yellow, and repeated it sometimes even three and four times in the day. He says, "that nitric acid used externally and internally does affect the salivary secretion, I no longer doubt, from the examination of not less than 800 persons, and from measuring the saliva ejected. Salivation is not, however, a constant effect of the use of these remedies; it is by no means so much so as from the use of mercury; and I do not recollect a case where the fœtid breath or ulceration of the gums which follow the use of mercury was remarked. The use of the bath alone occasions a redness and swelling of the gums, and it never fails to hasten a flow of saliva where mercury is used, as we have often seen in desperate cases of hepatitis and dysentery."

The opinion that the acid bath is an excitant, acting more powerfully than the warm bath, receives some confirmation from the circumstance of its use in persons suffering from chronic inflammation of the eyes, rendering this state of disease more active, although not at the same time more curable, which is exactly opposite to the general effects of mercury in similar cases.

In several cases of intractable ulcers, supposed to depend on constitutional, not local causes alone, the bath had a fair trial, with various success. The first case in which I saw it used was that of a burrowing ulcer at the root of the penis, supposed to have been originally syphilitic, and for which mercury had proved ineffectual. It was used to the feet and legs so strong as to change the colour of the skin; and in this case it produced an increased flow of saliva with soreness of the mouth, but without any curative effect, the man recovering many months afterwards by common surgical means.

In a case of intractable ulcer of the nates, spreading in a circular direction at its external edge, and healing at its internal with a corresponding celerity, it totally failed, or was rather detrimental.

In a third case, the patient, eighteen months previous to his admission into the hospital, whilst in India, suffered from a small eating ulcer on the left side of the nose and lip, which gradually spread across to the opposite side, producing a very disagreeable and painful sore, which was also accompanied by ulceration of the tonsils, and for which he underwent several courses of mercury without any benefit: during his return to England the ulcer healed by simple treatment, and continued well until the month of December 1816, when it broke out again on the right side of the lip, assuming its old action, and spreading up by the side of the nose which was generally large and increased from inflammation, whilst it also made progress to the opposite side in the track of the old cicatrix, having altogether an appearance that promised any thing but a speedy cure. On the 20th of January he was put on the use of the acid bath every second day, and directed to take two pints of the decoctum sarsaparillæ compositum every twenty-four hours; and under this treatment, without any sensible effect being produced, a gradual amendment took place until the 30th of March, when he was discharged cured of the ulcer, and his general health greatly improved.

In this case, I consider the bath to have been of most essential service, although the acid used was in small quantity, twenty-four ounces to forty gallons; and if future trials shall prove it to be useful in other cases of the same description, so as to destroy the idea of its being accidental, the remedy will be valuable from this circumstance alone: for, when I first saw the man, I had not the least hope of his recovery in as many months as he was cured in weeks.

In chronic rheumatism, and chronic pains, I have found it sometimes accelerate the cure, and especially when combined with other means, without producing any perceptible effect beyond the amendment of the patient.

An officer had been afflicted for several years with pains in his limbs, which were so much increased on becoming warm in bed that he could not sleep, and they often distressed him so much as to induce him to get out of bed and roll himself on the floor in agony. His general health was indifferent, he was thin and sallow, the digestive organs were considerably deranged, his bowels were irregular and flatulent, and his tongue generally white. He was relieved in the course of three or four days by alteratives combined with narcotics, and by attending to the state of the bowels: these remedies were persevered in for a few days longer, when he was in every respect better, his sleep improved, the pains diminished, but they were still distressing, and occasionally severe. The acid bath was now ordered to the feet and legs every night, and of a strength to produce pimples on the skin, which were rather encouraged, within bounds, than otherwise. It was continued, in addition to the remedies alluded to, for the space of three weeks; at the end of which period the gentleman had entirely lost his pain, slept well, and was in a much better state of health than he had been for a considerable time.

This case, which was under the care of Dr. Charles Forbes, I consider a good instance of the utility of the bath in the cure of chronic pains, judiciously used in addition to other remedies: when tried alone, it has been generally unequal to afford permanent relief.

In scrofula the effects have been equally variable; it was principally tried in cases where different glands were enlarged, suppurating, or in a state of ulceration, and with the same result as in every other disease in which I have seen it used: in some few it appeared to promote a cure; in others, the disease remained for a time stationary; whilst in a third set every symptom was aggravated. It would be very desirable here, also, to have it in our power to distinguish these cases one from another before the remedy was resorted to; but I have not been able to observe, neither have any of the gentlemen who were equally or more interested than myself been able to remark any one sign or difference of appearance in those persons, which could in the slightest degree guide us in the application of the bath. The good or bad effect to be expected from it could not then, by any previous observations of ours, be anticipated; it was ordered on speculation, and from the effects produced during its use, we could only judge of the propriety of continuing it.

I am however more disposed to believe, on an attentive consideration of the whole, that it will be found more useful in those cases in which there is actual suppuration and ulceration, than where there is only simple glandular enlargement.

In the most prominent case in which it was tried, the patient had long laboured under the disease, had been sent to the hospital as incurable, and was incapable of wearing any thing round the neck from the ulcerated state of the glands and parts extending round the neck in front from ear to ear. Dr. J. Forbes and Mr. Dease, under whose care he was, determined on trying the bath, as well as on using the nitro-muriatic acid internally. He commenced the use of the bath in the weak proportion, on the 15th of January, and continued it every other day with little intermission until the 26th of April 1816; during which time a soreness of the gums and an increased flow of saliva had taken place, which may probably be attributed to the acid taken internally. The ulcers gradually amended during this period, but about the latter part of it inflammation came on in the part, and the man was attacked with fever; the acids were now omitted, and he used the warm bath alone; but the inflammation soon shewed itself to be truly erysipelatous, rapidly extended to the forehead, and successively to the breast, and indeed to the whole body. From the second day the delirium was constant, and the danger extreme. The temporal artery was opened three times in one day, and he lost upon the whole a considerable quantity of blood: his treatment being purely antiphlogistic. This case was altogether one of the most remarkable of its kind I have seen, and the successful termination of it was entirely owing to the constant attention, as well as the decision and ability, of the gentlemen under whose care he was. The man completely recovered from both diseases, the last of which may, I am aware, be attributed by some to accidental causes, unconnected with the use of the bath; but as I have seen an erysipelatous inflammation occur after its use in another case of the same kind, although in a less serious degree, and without any beneficial effect, I am disposed to believe they are not entirely independent of each other, although they do not follow as cause and effect. The original disease is, however, so serious and distressing, as well as for the most part incurable by common means in the state to which I have alluded, that I should have no hesitation in continuing the use of the bath in those cases in which it appeared to produce a good effect, even if I had reason to suspect from the constitution of the patient that an attack of erysipelas would ensue. The misfortune we have most to lament, is not however the sudden appearance of this complaint, but the deterioration of the original disease, after it has for a time remained stationary, or been considerably ameliorated whilst the patient was using the bath; and when this is perceived, it must of course be immediately abandoned.

I have not used the nitro-muriatic acid bath for the cure of the primary symptoms of syphilis, because it would have interfered with another object I had in view; but I am inclined to believe it would be very useful in such cases. In the papers of Sir James M'Grigor to which I have alluded, I find the effect of the nitric acid bath was to shorten the duration of the primary ulcers; and when the acid was also given internally in conjunction, that the ulcers were cured in as short a time as when mercury was exhibited. But if it were not used for the cure of primary ulcers, it had a fair trial in many cases of secondary symptoms. From among them I have selected the following, as shewing some of their different kinds and stages, and its effects upon them. In some, where it may be doubted whether the cases were, according to received opinions, truly syphilitic; and in others, in which the ill effects of repeated and protracted courses of mercury will be discoverable.

Case I.

The Paymaster Sergeant of the 4th Veteran Battalion, about the latter end of September 1816, whilst at Quebec, perceived a discharge of matter from the urethra, and shortly afterwards an ulcer, made its appearance on the right side of the corona glandis and fold of the prepuce, near the frænum; for these he took about twenty-four mercurial pills, which did not affect his mouth: the gonorrhœa got well, but the ulcer remained the same, a few spots making their appearance about this time on his neck. He embarked for England on the 27th of October, and soon after saw the same kind of spots on the forehead and other parts of the body. On the 10th of November he was shipwrecked on the coast of Newfoundland, where he was much exposed to cold and privations of every kind, and the eruption rapidly increased. He came under my care on the 26th of December, when he thought the eruption better, that is, rather fainter in colour; for he had not observed any of the well-marked spots to disappear, some being small, others on the forehead as large as a shilling, scaly, and having the appearance of the syphilitic lepra; his throat was rather sore in swallowing, but no ulceration could be perceived. The ulcer on the penis, which was smaller than formerly, did not look unhealthy at bottom, but was surrounded by a thick hardened edge, extending to the touch under it, forming a welt, and there were two or three little excoriations near it: his general health was otherwise good. I pointed this man out to the gentlemen attending as a good case of syphilitic eruption, and a fair case in every respect to be allowed to run its own course.

On the 14th of January the ulcer was healed, but the hardness surrounding it remained, the eruption scaling and fading in colour. On the 7th of February, as he made little progress, the nitro-muriatic acid bath was ordered every other day; between that and the 16th the welt on the penis ulcerated, the scaliness of the ulcers disappearing slowly, and the mark remaining. On the 20th he complained that the bathing made him perspire, and that his eye was inflamed; on examination there appeared a slight redness of the conjunctiva, but the pupil was irregular, and there was an uneasiness hardly amounting to pain; the extract of Belladonna was ordered to be applied. 22nd. The iris was in part amenable to the Belladonna, shewing an irregularity of pupil on the outer and inner side, as if it adhered to the capsule of the lens behind; the external redness increased in the manner peculiar to inflammation of the iris; the colour of which was not perceptibly altered, except at the point of apparent attachment; no pain; the sight not impaired. The spots on the body disappearing; the hardness on the penis subsiding under the ulcerative process, which is slow. I did not consider it fair to push this experiment further; and as I knew the low inflammation of the eye would be best relieved by mercury, I therefore directed him to omit the bath, to rub in two drachms of the ungt. hydrarg. fort. every night, and to take ten grains of the Pil.Hydr. three times a day. On the 24th, the iris was half dilated and regular, with little or no external inflammation, and the pills were omitted. On the 26th, the mouth being completely affected, the ointment was omitted; ten drachms having been used and twelve pills taken. March 4th, the hardness around the site of the ulcer gone. On the 12th of April he was discharged perfectly well.

Case II.

A soldier of the 51st regiment received a blow on the eye on the 9th of November, for which he came under my care, and recovered from the immediate injury (vision having been previously destroyed by inflammation) by the 28th of the same month; at this time he was attacked by fever and sore throat, and called my attention to a papular eruption which was coming out over his body, but particularly on his breast, arms, and face. The fauces, on examination, were found inflamed, the tonsils ulcerated, especially the right. He confessed to having had a sore on the glans, the mark of which was to be seen, in the month of September, that he had taken a few pills, which had not affected his mouth, and that the sore soon after healed. The gentlemen attending supposed it might be venereal, and a fair case to see the effect of mercury; I rather wished them to observe the case without it, and at all events none could be given during the eruptive and febrile stages. Saline and antimonial medicines were ordered, with common gargles. On the 5th of December the fever subsided; and the head-ache were relieved. On the 9th the throat was easier, the papulæ were acuminated and resembling pustules. On the 12th, the sloughs in the throat separated; the fever was nearly gone; and the papulæ were scaling, but not scabbing. 18th. The eruption perfectly resembled Mr. Carmichael's plate of venereal lichen (Fig. 5. Plate 2nd); the throat was better; but the ulcers not healing. Ordered the pulv. ipec. comp. gr. x. three times a day, a gargle of lime water, and the linimentum æruginis. On the 10th of January, there being little alteration, the nitro-muriatic acid bath was added to the treatment. On the 20th the throat was well, and the eruption fading in colour. A pint of porter was ordered, in addition to the meat diet, the man appearing very thin and weakly. In the beginning of February the porter was omitted, and the pulv. ipecac. comp. gr. xv. given twice a day. On the 20th, as he continued weakly and the spots were fading, the powders were omitted, and from this period he gradually or slowly improved until the 12th of April, when he was discharged, fat, well, and free from spots, excepting where a small mark remained. He took no medicine after the 20th of February, and, although he bathed to the neck nearly eighty times in the acid bath, no effect could be perceived that might not equally be attributed to the warm water.

Case III.

A soldier of the waggon-train, in March 1816, perceived a bubo in the right groin, without any primary ulcer, for which he was taken into the hospital; the bubo suppurated, broke, and kept him six months in the hospital, during which period he took mercurial pills, rubbed in twenty-six nights, and in all had his mouth made sore five different times. Soon after his discharge he caught cold and had a sore throat, which was not well in the beginning of December, when he caught another cold, and immediately after an eruption appeared all over his body, first about the haunches, then on the breast, the shoulders, and the extremities. On the 28th of December the tonsils were ulcerated, although not very deeply, the body was covered with a copper-coloured scaly eruption, small in size, and resembling Mr. Carmichael's plate of venereal lichen (Fig. 6.); the general health was otherwise good. He was ordered the most simple remedies; a common gargle, gentle opening medicine, and fifteen grains of the pulv. ipecac. comp. twice a day: diet low. Under this plan he slowly improved; the throat amended, the eruption faded, although it did not disappear; but he lost his strength and was placed on meat diet. On the 4th of February he commenced the use of the nitro-muriatic acid bath, and on the 8th changed the pulv. ipecac. comp. for ℔iss of the decoct. sarsap. comp. This plan he continued until the 21st of March, when he was discharged cured, having bathed twenty-two times without producing any perceptible effect.

To the first case no objection will I think be made, as to the syphilitic history and nature of the disease, by any one. The symptoms were all slowly disappearing when the affection of the eye induced me to excite a mercurial action, under which they totally disappeared, and faster I conceive than they would have done without it. The quantity of mercury, according to received opinions, was not, however, enough to secure the patient from relapse: indeed it was not given to cure the venereal complaint, but the inflammation of the eye. The man is still under observation.

To the second and third cases, some will say they were venereal, not syphilitic; and others may suppose that the mercury taken in the first instance caused the developement of the ulterior symptoms, which would not have appeared or remained so obstinate if it had not been given. The cure in all three might have been expedited at an earlier period by a gentle course of mercury, although, in the two last, it was proved not to be essential, although it might have been useful. In a fourth case, exactly like the last, which occurred a year before, the sudorific plan with the strong nitro-muriatic pediluvium was tried for three months with little effect, the eruption fading but not disappearing, when a gentle course of mercury perfectly removed it.

The length to which this paper has already stretched, will scarcely permit us to give the three following cases in detail. In the fourth, a patient at Chipping Ongar, in Essex, about four years back, contracted an ulcer on the penis, followed by two buboes, for which he went through a course of mercury without any benefit, save the retrocession of the buboes, the ulcer gradually deteriorating. In December 1813, he was again put on the use of mercury, when the penis sloughed off, and several hæmorrhages occurred, which nearly destroyed him. The ulceration at last healed, but was soon followed by sore throat, nodes, &c.; for which he underwent twelve more courses of mercury without any permanent benefit. Towards April 1816, he was something better, and commenced the use of the nitro-muriatic acid bath, from which he received no benefit at first, and was then ordered the decoction of sarsaparilla, &c., with considerable effect. Having caught cold, he relapsed, in July 1816: and remained in various states of health until July 1817. During this period he repeatedly used the acid bath: on one occasion, it affected his mouth, and increased his pains; on another, it was omitted in consequence of its causing sickness and vomiting; on a third, a swelling of the testis, and an increase of ulceration in the throat. In July the man slowly recovered, and went out of hospital; but has since returned with all his complaints aggravated: he is again trying the bath, but I do not suppose it will be more efficient than at a former period.

In the fifth, from the repeated courses of mercury, the disease was considered mercurial; he was admitted in September 1815, and getting better under the use of the sarsaparilla, when the acid bath was tried, but with evident bad effect; the throat ulcerating, nay, sloughing largely; the ulcers spreading, and the pain increasing. The bath was omitted, and the patient, after fifteen months' suffering, was discharged cured; the good effect seeming to arise from the continued use of gentle doses of mercury, combined with the more usual means in such cases.

In the sixth case, the patient contracted a gonorrhœa at Madrid, in October 1813. Without any other previous affection, an ulcer appeared in the throat, in October 1814, which was called venereal, and treated by mercury, during the administration of which he was exposed to wet and cold. The disease followed nearly the same course noticed in the fourth case, and with the same effects in regard to the acid bath. In July 1817, he was discharged cured, although in a debilitated state, and has not had a relapse.

From these cases, and many others of the same description in which it was tried, it will appear that the acid bath is like all others, an uncertain remedy in what are called the secondary symptoms, or the sequelæ of syphilis, or of mercury; and although it may succeed in some instances, where all other remedies have failed, still it cannot maintain a character as a principal remedy, entirely superseding the use of mercury and those medicines more commonly administered. If I were to point out those symptoms which did not appear to be benefited by its use, I should name the ulceration of the throat and the pains in the bones.

It is not a little remarkable that the nitro-muriatic acid bath should have obtained a high character, although used in a variety of ways, and in very different proportions as to strength. It is on this account that I am disposed to attribute a part of the good effects resulting from its use to the warmth of the water. I am perfectly aware that Dr. Scott supposes the acid to be equally efficient when used with cold water; but there are many cases in which it may be used cold with greater advantage than warm, and I have one at present under my care; but I have not had sufficient experience to enable me to give an opinion. I doubt it as a general position.

I have shewn that the acid bath has two principal effects: one, that of promoting the secretions from the intestinal canal, even with pain, and often proving completely purgative. The other, although infinitely more uncertain, of increasing the flow of saliva, and especially if mercury has been previously used. It cannot then be denied to possess considerable power. As a remedy, although extremely uncertain in its effects, it is peculiarly applicable in those diseases in which the use of mercury and of alteratives is indicated; in many cases it may and will be successful where these have failed, but should not be relied on altogether as superseding their use. It will, on the contrary, be found more efficient on many occasions when used as an auxiliary, in combination with them.

In all cases of constitutional derangement dependant on the state of the primæ viæ; in nervous cases dependant on the same cause; in derangement of the function of the liver, and of the chylopoietic viscera—it will often be found of essential service. In many cases of this description we are uncertain whether there be alteration of structure or not, although the derangement may be complicated with ascites or other disease: if these complications be also cured, we think we have cured an organic disease, and that our mode of practice or our remedy is the more valuable. I do not believe the acid bath alone is equal to mercury in the influence it exerts in this class of diseases, although it is, even in them, a valuable aid. In the cases I have seen or heard of, with the exception of one or two, in which it was supposed to have had this good effect, the rapidity with which it was induced, as well as my knowledge of its failure in others, have led me to believe that an alteration of this kind could not have been so speedily accomplished.

To those who only value observations on a remedy when they prove it to be decidedly good or bad, I am aware my remarks can be of no use: to those who are disposed to make trial of a remedy which has many good qualities, although it is not always certain in its effects, yet is frequently useful, and seldom or never detrimental, they may perhaps afford some little assistance. My object in this paper has been to state what have been the general results of the trials made of the acid bath in the York hospital.

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II.

Observations on some Points of Difference which obtain between the Endemial Fevers of Marshy Soils and the Yellow Fever or Inflammatory Endemics incidental in the West Indies to New-Comers from Temperate Climates. By NODES DICKINSON, Member of the Royal College of Surgeons in London, Surgeon to the Forces, and Member of the Medico-Chirurgical Society.

IN its literal acceptation, the term FEVER might be expediently used to signify any deviation from health which should be characterized by an INCREASE OF ANIMAL HEAT. And (as regards West India febrile affections) it has been thus employed with great latitude, although this phenomenon is common to morbid states of an opposite nature and tendency.

When it is, however, considered in its application to a specific disease under the designation IDIOPATHIC FEVER, its literal import enters into a small part only of the definition of such disease, which requires to be distinguished by an attention to ALL its phenomena, to their causes, and to the effect of the means adopted with a view to their removal.

The remarks made here concerning *idiopathic* fever, are merely introduced to shew some circumstances in which that disease, occurring within the tropics, very materially differs from the endemic of new-comers or yellow fever, as *this* has been presented to the writer's observation; and not with the view of elucidating the nature of idiopathic fever itself, which has already been done by much abler hands.

Idiopathic fever, produced by marsh effluvium, sometimes will not appear until many weeks after the application of its cause. If the paroxysm does not prove fatal in the first attack, the disease will remit and afterwards recur; going through an indefinite number of similar stages, as at first, without the re-application of its original exciting cause, the marsh effluvium.

These circumstances having taken place in whatever class of subjects, and wherever the disease made its appearance, leads to the inference of its affinity, and perhaps of its identity, under every diversity of aspect in which it has been viewed.

In the writer's attendance upon patients with marsh remittent and intermittent fever, he has often observed, that the continued application of the effluvium did not increase the symptoms of the paroxysm then present, nor did a removal shorten its duration. But, being gone through, a removal from the deleterious effluvium has sometimes prevented its return, and is often the only remedy upon which any reliance can be placed, notwithstanding its occasional failure.

After an attack of marsh fever, consisting of a repetition of similar paroxysms, has been entirely gone through, and has ended in the recovery of the patient, the successive re-application of the effluvium will be apt to re-produce the disease, until the health be completely undermined, and is at length too much enfeebled to sustain the febrile re-action. In these circumstances, general debility, emaciation with visceral derangements, exhibit, in the persons of those who inhabit marshy districts, a permanent state of langour, and in strangers, such a condition of disease as nothing can remove but change of climate.

The marsh remittent and intermittent is often increased in violence by various contingencies, especially by the superaddition of topical inflammation. In its simple character, marked by great depression of vital power, the writer has often seen it in the West Indies a most fatal disease. The phenomena are manifestly occasioned by the application to the living system of an effluvium; the nature of which, as also its mode of action, remains undiscovered by any test of experiment yet employed.

The symptoms which come on at the attack are produced by a peculiar morbid impression on the vital energies, the effect of the action of the exciting agent, the marsh effluvium. This effect of the remote or exciting cause and the immediate forerunner of the symptoms, has been denominated the *proximate* cause.

The phenomena of the attack appear to result from a peculiar affection of the living power, unlike the symptoms which constitute the appearances in inflammation. They do not arise in regular order and succession, nor in degrees proportioned to each other. For instance, in a majority of cases, a cold fit of considerable duration shall precede a hot stage, and this latter shall subside upon the appearance of a profuse perspiration. But in certain cases, perfectly analogous in all other respects, there shall not take place any cold fits; while in others the cold stage succeeds the hot. In some cases there is no hot fit; and, frequently, the whole paroxysm shall terminate without any perceptible increase or alteration of any kind in either the secretions or excretions.

It may be noticed, that the severest cold stage the writer ever witnessed came on while the patient was placed under circumstances particularly favourable to the maintenance and increase of his animal heat. He was in bed, warmly covered, under the genial influence of a moderately cordial regimen, and surrounded by an atmosphere the temperature of which was from 86 to 90 degrees of Farenheit in the shade; 120—130 in the sun.

The manifest sameness of the exciting cause of remittent and intermittent fever makes it more than probable that they are only varieties in form of the same disease. And as fever of type equally follows the application of marsh effluvium, whether it occurs in temperate or torrid climates, it is also most probable that it is every where the same peculiar morbid affection. Nor will it appear necessary to call in the heat of the tropical sun to give to marsh fever a character of malignancy, when the devastation committed by the same disease in colder climates is brought to recollection. It is, in fact, the disease of every part of the world where marsh effluvium is extricated from the soil, and is liable to seize upon all who come within the limits of its action.

If it has been found to attack strangers with a certain preference, it has been the weakly and enervated who were its surest victims. Dreadful were the numbers the writer saw under the mortal grasp of marsh fever at Prince Rupert's Dominico. They were subjects assimilated to the climate, although strangers to that particular station. They were, chiefly, men worn out by a long West India residence, and now no longer susceptible to the disease which so often attacks the strong and plethoric youthful European in situations remote from the influence of paludal soils. Whatever is the nature of the action of the effluvium operating as the remote cause of marsh fever, inducing the series of phenomena observed in it, it does not appear to consist in simple excitement or debility; for the means that are adequate to regulate such simple change of increase or decrease of the vital energy or action in certain other morbid states, produce no analogous effect in their application to the removal of idiopathic marsh fever. If, for example, inflammation takes place in marsh fever and is subdued by the necessary depletory measures, the febrile paroxysm will, nevertheless, often pursue its course, and continue to manifest its peculiar character of a disease marked by remissions and exacerbations. Sometimes, indeed, an obstinate remittent, rendered so by the super-addition of inflammation, and hence assuming a continued form, has been found to give so much way to the evacuations promptly applied to carry off the inflammation, as afterwards to become purely intermittent. In this case, the continuance of the peculiar idiopathic febrile state, in contra-distinction to inflammation, was made particularly obvious, by the subsequent recurrence of the paroxysms of simple intermittent fever after the super-added inflammation had been removed.

Until a more accurate knowledge is attained concerning the *nature* of the morbid state which produces the phenomena of idiopathic marsh fever, no rule of practice can obtain as founded on the ground of an acquaintance with its proximate cause. Accident appears, however, to have suggested certain means, the remedial operation of which, in the cure of idiopathic marsh fever, could scarcely have been anticipated by any reasoning on their properties, *à priori*, or by consequence of any ascertained analogy. Such are, among others, antimony, [illegible]k, arsenic, the cold affusion, certain impressions on the mind and organs of sense, &c. &c. which have been at times successfully employed to check the progress of fever; or, in the period of remission, to prevent its recurrence.

The mode of operation of the above mentioned, or other means productive of equal effect in the treatment of marsh fever, if it is at all susceptible of elucidation by any human analogy, seems most referrible to the property such means possess of exciting a new action or change in the existing unknown morbid state of the living system; perhaps, in like manner as mercury appears to act in the cure of true syphilis, which seldoms fails, when properly applied, although we are ignorant of its *modus operandi.*

But it may be mentioned by the way, that this analogy, whether it be well or ill founded, does not extend to mercury the same power to cure idiopathic fever as it does the true syphilitic disease. At least, in my experience, the same medicine has never evinced any specific effect as curative of any form of marsh fever; although of great value as a cathartic, and highly beneficial in those visceral derangements which succeed the primary disease. Nor has it ever proved curative by its specific action in the states of great excitement which occasionally take place in marsh fever, and which constitute the inflammatory endemic or yellow fever.

In these it is oftentimes most difficult to induce its specific operation, until, by bleeding and other evacuant means, the inflammatory symptoms are subdued. Then the mercurial action, as manifested by its exciting the salivary glands to increased secretion, developes itself, although no additional quantity of the mineral is employed. But the mercurial action thus induced cannot be considered the cause of the removal of the symptoms of the disease; an effect which in this case it accompanies, but does not at all produce. For the mercurial action does not appear to be induced until the inordinate excitement constituting the morbid state has first been subdued by other means. In a word, mercury does not cure idiopathic fever itself, neither does it cure simple inflammation; but is, on the contrary, often projudicial if employed with that view, either in the treatment of inflammatory fever, or in the adventitious state of inflammation which sometimes accompanies marsh fever, and also the local affection of the organs under syphilis; the peculiar morbid character of which, however, it certainly possesses the power to destroy.

Some of the circumstances which tend to characterize the marsh endemic, as the writer has experienced that disease in the West Indics, having been thus noticed, he will next state a few facts to shew the discrepancy between it and the yellow fever of new-comers.

It is the last mentioned disease that the writer denominates the *inflammatory* endemic. It is excited in susceptible subjects by an effect which results from sudden change of climate, in conjunction with violent exercise and intemperance, without the influence of marsh miasmata or contagion.

Contrary to what has been remarked with respect to marsh fever, an attack of the inflammatory endemic comes on suddenly, with symptoms of increased excitement, in situations where the remittent was never seen. It is severe in proportion to the intenseness and continuance of the action of the exciting causes operating upon susceptible subjects. This susceptibility consists in an inflammatory diathesis, which is acted upon by the stimulus of a high and permanent degree of atmospheric temperature. It is the idiosyncrasy which forms the *sine qua non* of predisposition. If a severe attack is left to pursue its course without controul, it rapidly advances from excitement to exhaustion; there is no remission. If subdued at the onset, the disease is perfectly cured; if we except the debility which must necessarily result from the employment of every active depletory means: there is no exacerbation. Neither will there be any risque of a second attack at a future period, unless the inflammatory diathesis has not been sufficiently reduced by the first seizure, and the exciting causes are re-applied to an inordinate extent; or, unless a change of constitution has been again induced by residence in a cold climate between the periods of a first and second attack. These contingences offer the only exceptions to subsequent immunity. Under ordinary circumstances there will not occur a second seizure.

The inflammatory endemic is consequently not remediable by the means that have been mentioned as successfully employed to check the progress of idiopathic marsh fever, or to prevent its recurrence. And it has been already stated, that the measures adopted with efficacy to subdue the morbidly increased excitement which constitutes the inflammatory endemic, will not cure simple idiopathic fever.

With regard to the prophylaxis, it is obvious that the most certain means of preventing marsh fever must be to avoid the action of the miasmata, its exciting cause. When this cannot be done, it is often requisite to support the tone and vigour of the system by a more nutrient diet and the moderate use of condiments and wine.

The inflammatory endemic can only be prevented by a reduction of the excitement which constitutes predisposition, and by avoiding exposure to intense heat, violent exercise, and intemperance, which are its exciting causes. Removal from stations on the sea coast in the West India Islands is, therefore, equally preventive of both diseases, but upon opposite principles.

It is a successful prophylaxis against marsh fever, by obviating the operation of its cause, the paludal effluvium. It is preventive of the inflammatory endemic by the diminution of temperature it affords, and often by preventing the opportunity and means of indulging destructive habits of intemperance. The prophylactic efficacy of change of station in this case is in proportion to the degree of elevation and consequent reduction of atmospheric heat. Without the same degree of elevation, a removal from particular stations is preventive of marsh fever merely by avoiding the influence of marsh miasmata, which generally arise in low and consequently torrid districts.

The inflammatory endemic is peculiar to hot climates, and to persons who have only been accustomed to temperate regions. It principally attacks the youthful, sanguine, plethoric, and robust.

It is the reduction of tone, which a certain period of residence occasions in the constitution of new-comers, that secures them against its seizure. It is a corresponding (atonic) state of constitution which affords immunity to the native inhabitant. Both the European and native West Indian become liable to the disease if they change their climate for any considerable length of time; although a first attack secures them against a repetition of the same affection, they nevertheless remain liable to marsh fever, should they come within the influence of the effluvium which is its cause, and this as frequently as they may happen to approach it.

These distinct diseases the writer has experienced at several times, in different situations in the West Indies, to occur with almost epidemic universality, under the circumstances essential to the prevalency of each. In the one case, requiring numbers of a similar habit to be introduced from a northern climate at no great distance of time from each other; in the other, only requiring the subjects to be brought within the sphere of the action of marsh miasmata. Thus, I have known them prevail at similar periods perfectly distinct from each other, and sometimes in a state of combination.

Should it be suggested as difficult of proof, that marsh effluvium did *not* exist in the situations where it has been stated that the inflammatory endemic or yellow fever prevailed, it must be observed, that such affection, occurring at stations to every appearance free from the influence of marsh miasmata, has not assumed any of the symptoms characteristic of idiopathic fever derived from that source; but, on the contrary, has been at all times a disease of simple excitement, terminating quickly in death or recovery.

Moreover, while the inflammatory endemic or yellow fever has thus prevailed in a severe degree in situations perfectly dry and healthful to those accustomed to the climate, the remittent fever has been not less prevalent in other districts of the same colony in which the soil is marshy.

When the subject who has recovered from an attack of the yellow fever visits the swampy district, he has generally been seized with the peculiar fever its effluvium excites; and at the same time that convalescents from the last mentioned disease were removed to the stations in which young plethoric Europeans were sustaining severe attacks of the inflammatory endemic, with a view to perfect their recovery after having suffered by the fever of type.

If it be conceived that marsh miasmata possess the property of exciting morbid conditions of the system, differing in kind according to the climate and particular class of subject affected; exciting, for instance, in the languid constitution a disease of debility, and in the plethoric and healthful habit a disease of violent inflammation; and that in this view the endemic remittents of paludal soils and the inflammatory endemic of new-comers from temperate to hot climates should be considered the same disease, only altered by the application of its exciting cause to a variety of constitution; let it, in such case, be borne in recollection, that the subject who is peculiarly predisposed to the inflammatory endemic or yellow fever, if he should be seized by the marsh remittent, may go safely through an attack of that disease without any appearance of inflammation whatsoever, or he may die without the manifestation of such appearance; while a new-comer, seized by an inflammatory endemic, shall perish within forty-eight hours of the attack with the most strongly marked evidence of inordinate general excitement and topical inflammation, without the least tendency to exacerbation and remission: and this shall occur in situations in which it is impossible to imagine the operation of any noxious effluvium derived from peculiar states of the soil, or from any ascertainable impurity of atmosphere, or from any other alteration in it independently of temperature.

I shall state, in conclusion, the following examples, which I conceive to illustrate the distinction and difference noticed in the preceding pages, and to mark the propriety of making such distinction in practice.

First: a West Indian, or a native of a similar climate, who has resided in a dry and elevated situation, such, for instance, as Richmond Hill, Grenada; Monk's Hill, Antigua; Dorsetshire Hill, Saint Vincent; Brimstone Hill, St. Kitts, &c. will maintain as good a state of health as falls to the lot of humanity in any other part of the world; taking, however, into the account, that the condition of health of the native inhabitants of torrid climates does not often possess the character of tone which obtains among the natives of temperate regions.

Second; if such person removes to a cold climate, remains there for a considerable time, and then returns to his former healthful station within the tropics; if he should, also, live intemperately, and suffer much exposure to the sun under violent exercise soon after his arrival; whatever degree of trust he may repose in his West India nativity, it is most probable he has sustained such change in constitution, that he will have become liable to the disease which so commonly attacks the natives of temperate climates: in other words, to the yellow fever, although perhaps not in so violent a degree.

Third: whether the West Indian, already adverted to, has returned from visiting a temperate climate, or has been always resident in the torrid zone, if he should change his residence from the healthy station in which he was first considered to live in the vicinity of a marshy soil, he will, most probably, ere long, sustain an attack of remittent or intermittent fever.

Fourth: should a person, circumstanced as above noticed, be immediately removed from the influence of marsh miasmata, he will, most probably, soon recover, after the existing paroxysm has been subdued or has gone through its course; nevertheless, he will be liable to suffer repeated attacks whenever he shall again visit the same neighbourhood, providing the soil at such period possess the character of marsh. And if he continues to reside within the influence of the noxious atmosphere, his constitution may in a short time, perhaps, be sadly undermined, although he shall scarcely suffer, as formerly, by the regular and decided febrile paroxysm.

Fifth: if, on his arrival from a colder latitude, the West Indian is at once stationed in a marshy district and takes the fever, the attack may be rendered more severe and irregular in its course from the super addition of inflammation, excited in consequence of sudden change of climate, imprudent exposure to solar radiation, or violent exercise and intemperance. But where these exposures are wanting, the disease may only assume its character of simple marsh remittent.

Sixth: if, on his return from temperate latitudes, the new-comer, as heretofore announced, reduces the habit of body by bleeding, purging, and abstinence, and retires to a dry and elevated station, he will probably remain exempt from febrile disease.

That which has been stated with respect to the West Indian will apply to the European or North American, with no other difference than the greater susceptibility of these latter to violent attacks of the disease of excitement soon after their arrival within the tropics; from which the natives of hot climates are perfectly secure until their return from colder regions, and from which also the European becomes exempted after such a period of West India residence as renders him *acclimaté*. This immunity, however, must vary in its extent conformably with particular circumstances of predisposition and exposure.

If the distinction between the endemial fever of marshy soils and the inflammatory endemic should possess the practica advantage I apprehend, no small proportion of it must be referred to the rule which such distinction is calculated to establish with regard to the employment of depletory measures in their treatment.

For this discrimination directly leads the practitioner to weigh in his mind, and, perhaps, separate the appearances of general inflammatory tendency with the actual inflammation of certain organs, occurring in the ardent endemic of plethoric new-comers, from analogous symptoms arising during the hot stage of marsh fevers, in which fever there is sometimes the greatest depression of strength; more especially when attacking the worn-out soldier, the debilitated West-Indian, the weakly woman, or still more, enfeebled child.

In the first case, the practitioner must be determined in the liberal use of the lancet until the symptoms of inordinate excitement are subdued; while he will not deplete in the view of curing marsh fever, although the symptoms of re-action, or the adventitious appearance of topical inflammation, may demand judicious controul.

When a subject of a severe and sudden attack is an inflammatory new-comer in the first stage of disease, who may have been much exposed to heat in the most arid situation that can be imagined, the practitioner will detract blood freely; he will not be regulated by periods of time, but by the actual state of things; he will not withhold his lancet, the sheet anchor of his hope, and deserving all his confidence in the unavailing anticipation of a remission, which is to be the signal for throwing in the bark to prevent the recurrence of the paroxysm. For he will be well aware the existing symptoms of excitement with inflammation extending to the vital organs must be promptly subdued, or his patient be soon placed beyond the reach of human aid. The freedom from heat and pain which is liable to take place during the decline of a severe and neglected case of yellow fever, however analogous to the appearance of remission so much desired in the marsh endemic, is a deceitful resemblance; the presage of a fatal exhaustion, soon to be followed by organic destruction.

Has not the want of distinction noticed in these pages been among the causes of that difference of opinion and practice which has subjected West India febrile affections to the most singular opposition of treatment? " some advising the liberal use of the lancet; and others, having frequently experienced its dangerous consequences, almost binding themselves by a solemn engagement never to recommend it again in idiopathic fever within the tropics."

Under the baneful influence of an erroneous theory, which regarded the yellow fever to depend on a *putrefying* diathesis, the writer has often known the most serious consequences result from the employment of diffusible stimuli; while, on other occasions, the disease being considered the offspring of marsh miasmata, antimonials, exhibited to procure an expected remission, and bark, poured in to prevent the recurrence of paroxysms, have conjointly excited and kept up a state of vomiting, only to cease with the life of the patient.

Fortunately, another and a better practice has, for some time, deservedly obtained increasing confidence. Mosely and Jackson chiefly led the way. The happy results of their enlightened experience give to the practice a prompt and decisive system of depletion in the *first* stage of yellow fever; an authority which, although under a variety of speculative opinions, has more recently received abundant confirmation of its intrinsic value by its very frequent adoption in the hospitals of the navy and army, as well as through the writings of Trotter, Pinckard, Dickson, Johnson, Irvine, Burnett, Doughty, and many others of character and experience.

It may not be impertinent to inform the reader, that the source of the present writer's information on the subject of tropical fevers has been derived from a varied tour of duty among the West India Colonies, between the years 1796 and 1814; during which period he was stationed in Barbadoes, Saint Vincent, Martinique, Dominico, Antigua, Trinidad, St. Bartholomew, St. Martin's, St. Christopher, Demerara, and Grenada; at which last mentioned island he was the senior medical officer for ten years. The remarks thrown out in this paper have been chiefly transcribed from the concluding pages of a manuscript on yellow fever, in which that disease has been considered somewhat more at length. The Tract here adverted to, composed from official reports long since addressed, and at different times, to the principal officers in charge of the Medical Department in the West Indies, the writer proposes to bring under the view of the junior medical officers destined for West India service; with the important aid of such collateral evidence as leisure and the access to written authorities have recently enabled him to collect.

The writer begs leave to subjoin, that as it is his wish to confirm the facts derived from his personal experience by the testimony of other evidence, with a hope thereby of arriving at some legitimate practical conclusions, he ventures to solicit information upon the subject from those of his professional brethren who have practiced in the West Indies, and may honour him with their correspondence.

17, *Wigmore Street, Cavendish Square.*

III.

Observations on the Plague. Communicated by HENRY ROBERTSON, M.D. Coll. Med. et Academ. Ion. S. in a Letter to Dr. M'Mullar, Physician to the Forces, &c. &c.

MY DEAR SIR, *Cephalonia, July* 1, 1816.

I forward to you the extract of a letter from the late Mr. Charles Torrie of the Medical Department; because of the connexion of its subject to that of the observations on remittent fever I formerly communicated to you. This extract is particularly valuable, as giving the result of the experience of a young man of superior professional talents on the plague; a disease the most fatal to mankind, and consequently that which most interestingly claims investigation. Of that disease Mr. Torrie fell a lamented victim at Marathea, a village in the eastern extremity of Corfu, January 11th, 1816, about the twenty-third year of his age, while zealously and humanely exerting himself for the relief of the inhabitants affected with the plague. His fatal prepossession of the non-contagious nature of that disease seems to have led him to disregard the necessary and proper measures for preventing a too near approach to the sick: but if he erred in this opinion, he is countenanced by several celebrated men, both of our own and other countries, who have promulgated their ideas upon this question. Upon the whole, considering the letter highly creditable to the author, I submit it to you.

It has been thought proper to subjoin an extract of my letter written in answer to Mr. Torrie's request.

The plague, as it raged in the district of Leftchimo, in the island of Corfu, seems first to have broken out in an inland village (Marathea), the inhabitants of which are solely occupied as husbandmen. This situation, though on a rising ground, has at all times been unhealthy, in consequence of the marshes in its vicinity, and the noxious exhalations that arise from the olive groves with which the district is in greatest part covered; consequently the inhabitants have always suffered from remittent fever in its worst form; and it had been unusually prevalent during the preceding spring and summer. On this account I then visited the district.

It is necessary to be observed that the rains set in early in October 1815, and were unusually heavy during the whole season, with a high temperature of the air; the thermometer of Fahrenheit having rarely sunk below 60°, even in the latter period of December: the wind most generally southerly, forming the "Constitutio temporis pestilens annus austrinus et pluvius."—*Hippo. Morb. Pop.* S. 3.

The people being in this way shut almost entirely within their low, damp, ill-ventilated cottages, which added to the despondency and wretchedness arising from a total failure of their crops for several successive seasons; the remittent fever seems, from different official reports, to have thereby gradually degenerated into the pestilential disorder that desolates that district; as happened in the plague that for the second time broke out in Athens, as recorded by Diodorus, and in that of Saltzbach in 1768; and similar in its origin to the fevers of colder climates, as the jail, hospital, and other varieties of what is called typhus, which are well known to originate from certain local causes, and are afterwards propagated by a peculiar matter generated in the course of the disease. This opinion seems to be rendered still more decided in the case in question, as no trace of its being an imported disease can be made out, notwithstanding the strictest investigation on the immediate appearance of the disorder, and the inducement of the high reward of 1000 dollars offered by Government for information upon that point. I remain, very truly, your's,

H. ROBERTSON.

Extract of a Letter from Mr. Torrie to Dr. Robertson.

Casa Trivoli via Rumanades, January 3, 1816.

"I had resolved, when I began to suspect the disease of the Marathea of being different from what it was called at Corfu, to send you an account of the symptoms. I was, however, prevented by different causes. I shall now state them in their regular order. Of the cause, I do not pretend even to offer an opinion; of the causes, however, of the extension of the disease, I may be able to say something. I should not mention the name of Cullen, were it not to shew how erroneous his definition is. He plants it among the Exanthemata, and calls it a Typhus, highly contagious, accompanied with extreme debility, and, at certain periods, eruptions of buboes, &c. Now it happens that it is neither a typhus, nor highly contagious, nor accompanied always with buboes. On this point I shall be happy to have your opinion.

Previous to the attack, the patient generally feels languid and incapable of any great exertion. It, however, often happens that he is affected with a sensation of cold, which sometimes proceeds to shivering long before he experiences his usual state of health. The first attack is always in the evening. I have only met with one case that deviated from this; and I suspect that the cold fit had passed without observation. This can be easily conceived when I shall state—I have seen some cases where no fever preceded the eruption of buboes; but on their appearance a kind of symptomatic affection shewed itself. This state, however, is soon followed by immense heat of skin, pain in the head, giddiness, the tongue is white, the eyes heavy (by this I mean dull and muddy), the face loses its expression, the pain in the head is confined to the temples and eyebrows, the temporal arteries beat strongly; but the most remarkable affection is that staggering so well described by General Menou, who said "I have neither drank wine nor spirits, and yet I feel as a drunken man." This staggering increases with the disease. The least exertion is difficult and dangerous. The stomach partakes of the general irritability, and rejects most things presented to it. The contents of the alimentary canal are highly offensive. Stupor is present, even sometimes immediately after the formation of the hot fit. The pulse at first is small, hard, and quick, as in most internal inflammations. After the appearance of buboes, it continues its quickness, but often becomes fuller. The greatest indifference appears with respect to life. After one, two, or three days, pain in the groins or axilla announces the formation of buboes. Sometimes this pain is extreme, and, if swelling does not soon follow, the miserable being dies delirious. It happens, however, that these local symptoms are sometimes absent. In women the axilla is generally the seat of the buboes; the contrary is the case in men. The course of the disease is very various; the first paroxysm has closed the career of several of the inhabitants of Marathea. This period lasts from the evening of the attack to the close of the night following. It more generally lasts longer. The third and fifth days are those of greatest danger; the third informs us of the commencement of the bubo; the fifth of the abatement of the febrile symptoms. If the patient passes the fifth day, and the bubo is completely formed, he may be often pronounced free from danger; but the debility is often so great, and the second fever so high, that coals can only be then added to the fire.

The opinion that I have formed of the proximate cause of this disease is much the same as that of your's respecting the cause of the common remittent; and I conceive it to be much akin to that fever. I do not allow the appearances of debility (a word so often polluted) to blind me.

The treatment is simple. I have divided it into two periods: the first, from the formation of the disease to the appearance of buboes; the second, after their complete formation. The first requires antiphlogistic remedies, topical bleeding, blisters, purges: the second, bark, wine, opium, &c. &c.

My plan of proceeding is this:—On first seeing the patient, I order a blister to the head, and a dose of calomel. Sometimes I give salts; but the irritability of the stomach generally confines me to calomel and rhubarb. On the second day, if the fever is high, I order a second blister to the head, and repeat the purgative medicines.

Immediately that the patient experiences pain in the groin or axilla, I apply a blister to the parts, for a very obvious reason. I have tried the actual cautery; but four out of five to whom it was applied died, and apparently from the great irritation produced. I have also used hot water to the part; but it was carelessly done, and I do not think I shall soon repeat it. I find the blister answers my purpose, and I keep up the action by poultices. I find sudorifics of great use after the local symptoms shew themselves. I employ the pulv. ipecac. comp. Of the cold bath I can only say, that I think I cut short the disease by it in one case; but four of the unfortunate people certainly fell victims to that treatment. They were not fair trials, as one (by-the-bye I did not know it till afterwards) had an inflamed liver; the others were improper subjects.

Thus have I given you an imperfect account of the symptoms and treatment of the disease at Marathea; and *I doubt not* but that, without any hesitation, you will call it—the Plague!"

(Signed) CHARLES TORRIE.

Extract of a Letter from Dr. Robertson to Mr. Charles Torrie.

Corfu, January 9th, 1816.

I HAVE been much gratified by your description of the symptoms and treatment of the disease now under your inspection, which, from the first, I had little doubt was nothing but the plague. I never saw that disease, and it would be presumptuous for me to enter into a detailed discussion upon it. However, as it is a subject that has for many years attracted my attention, and as I know you do not intend it as an unmeaning compliment by asking my opinion, I shall give it to you in a very few words. I agree with you that the plague is not typhus, nor perhaps are buboes essentially characteristic of it.

During the plague at Marseilles, and in that of Moscow, this disorder has been met with as an intermittent. Livy mentions the plague having once appeared at Rome, when in all those recovering it assumed the quartan period. In Egypt, and in Syria, the plague commonly makes its appearance with the common symptoms of remittent fever, insiduously becoming more and more aggravated; and, having acquired its acmè of malignancy, it gradually declines in the same way. The first plague at Athens, though an imported disease, does not seem to have been marked by glandular swellings, neither was the sweating sickness*. But the connection of the plague with the ordinary causes of remittent fever is still further shewn by the similarity of the symptoms in both, these only differing in degree; while the few dissections of those dead of the plague have shewn precisely the same appearances in the brain, &c. as those you have seen in the remittent cases, only the changes in the former have been found more material. But although I admit with you, thus far, the connection between the origin of the plague and remittent fever, I am far from thinking the former is not a contagious disease, and I beg of you to be on your guard in this respect. Perhaps you may say, this is contradictory; but I explain it in this way: a more concentrated state of the miasmata operating on people highly predisposed by despondency, bad diet, and other causes of depression, must gradually generate a fever of increased malignancy, by which at length the functions of those affected are so completely disturbed, that the secretions, either gazeous or liquid, if received into the system of a healthy person, have the effect of producing in him a disease of a peculiar type and character; and in this way it may be propagated through every climate and in every season; therefore, although I imagine that the plague may originate from local causes independantly of contagion, yet we have incontestible facts to shew, that it is propagated most commonly by communication with the sick or by fomites. I believe that in the same way the discordance of opinions respecting the contagious or non-contagious nature of yellow fever is to be explained. So far from supposing there is any thing like debility in the character of the plague, I am inclined to consider it marked by an excessive phlogistic diathesis, in which I follow very high authority (Sydenham). If, therefore, I were to prescribe for such patients, I would endeavour to extract blood, if possible, from the temporal artery, to the amount of two, three, or even four pounds, and repeat it according to circumstances. Small bloodings always do harm in acute diseases, by augmenting the sensibility and irritability of the system; that evacuation must therefore be proportioned to the severity of the disease, &c. I would, on account of the irritability of the stomach, at first only give purgative clysters, till I had freely opened the bowels. I would afterwards have recourse to diaphoretics; and blisters, if the head still remained affected. The buboes I would leave to nature, covering them with some diacholon plasters. I am fully persuaded that the difficulty of bringing these buboes to suppuration arises from the great excitement of the system, and the excessively stimulated state of the minute vessels of the part, which run more readily into mortification; all irritating applications must therefore do mischief; indeed I consider such practice, à priori, as rather calculated to defeat the intention of forwarding the suppurative process.

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* The plague broke out in the island of Cephalonia (July 1816), and its ravages continued for weeks without being attended to, in consequence of the report of the physician sent to examine the first person who died of it, as being caused by an inflammatory affection of his chest, because there were neither buboes nor patches on his body. Others have died of that disease with precisely the same appearances, and several others with the general characteristic of plague. It was ascertained that the contagion was brought from Arta in Epirus by the first mentioned person, who carried with him a Capot belonging to a family sick of the plague in that place. This man died within twenty-four hours, after being admitted to pratique from the lazaretto nearest his native village, Comitata.

Why not follow the same practice in the plague as in other cases of inflamed glands? Cold bathing, you know, is not thought proper in cases where there is a determination to any internal organ. To conclude, an idea seems very prevalent here, that it is contact alone by which pestilence is communicated. This I am very much disposed to doubt: the skin, in a sound state, does not probably perform an absorbing function. The surface of the lungs, however, although well demonstrated as an absorbing and an exhaling organ, does not seem to be sufficiently considered as having an effect in conveying contagious effluvia into the system of an healthy person: but as this is a point of the last importance, I wish to call your attention to it. I am convinced, from analogous facts, which I cannot repeat now, that the gaseous or aeriform secretions of the morbid subject are those most to be apprehended; these produce their effects by respiration; consequently a well-contrived muffler would be an instrument of the highest importance for those going about the sick, as also by some appropriate dress to prevent the effluvia arising from the sick being imbibed by the clothes of the attendants, which ought to be changed and hung up in some airy place as soon as the duty is performed, otherwise they must act as a continued fomes. Inattention to such circumstances has, I am persuaded, led to the belief that contagion may exist in the system some time (even weeks) before manifesting its effect; an opinion, I may observe, which is at least in opposition to every analogous fact, and from which has arisen the incalculable inconveniences from quarantine laws, as at present generally established. Upon the above idea, I am persuaded that considerable improvement may be made in the regulations of police as well as of quarantine, as measures for preventing the origin and spreading of *epidemic disorders.* (Signed) H. ROBERTSON.

IV.

Observations on Gout. By WILLIAM COOMBS, of Bath, Member of the Royal College of Surgeons in London.

Non docentibus, sed discentibus; non eruditis, sed erudiendis.

IT will, I believe, be universally admitted, that gout is among the many salutary processes which occasionally take place in the human body for the purpose of removing diseases, which might otherwise have proved fatal.

From this generally acknowledged principle*, it will undoubtedly become a question among many of my readers, through what medium Nature is enabled, by a process of so painful a kind, to effect a change of such importance to the human constitution? In reply to which, it will be necessary that I should direct the attention of inquirers to an investigation of those symptoms which usually precede a gouty paroxysm.

Previously to the accession of a paroxysm of gout, the symptoms from which the patient is accustomed to suffer are rather those of a general nature; as fever with its concomitant symptoms; as an affection of one or more particular organs, such as the brain, stomach, or bowels: the former originating as a consequence of too large a proportion of blood in the system; the latter from an improper balance in the circulation, producing an increased momentum of blood to the various organs affected. Numerous arguments might be here adduced to prove, that the symptoms, of which I have thus spoken generally, are fairly referrible to the causes which I have thus assigned to them; but in consideration of feeling persuaded that the majority of my readers will readily acquiesce in my opinion, I have desisted from producing them.

I shall commence this inquiry in the first place by an endeavour to ascertain by what means symptoms having their origin in a general vascular fulness and an undue balance in the circulation, by which the vessels of the brain or any other important organ become surcharged with blood, are susceptible of relief by a gouty paroxysm?

Were we to employ medical means for the removal of those symptoms which result from a general vascular fulness, our object would of course be to lessen the quantity of blood, and produce a diverticulum for it from the vital organs, which we should naturally expect to be surcharged. These objects are usually accomplished by the salutary efforts of Nature in a fit of the gout; for the dyspeptic symptoms, which are almost always the concomitant of gout, cause the patient to abstain from taking his usual quantity of food, and thus an augmentation of blood is prevented; while at the same time the secretions are going on, and consequently the quantity of blood diminishing. But should the efforts of the stomach or bowels be inadequate to relieve the constitution, it would be of importance to produce a sudden determination of blood to the extremities, and this is effected by the local inflammation of gout. The fever will be kept up in proportion to the quantity of blood necessary to be diminished; when the blood from the extremities will again return into the general circulation, or the vessels will be relieved by a deposition from secretion in and about the parts affected.

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* We seldom venture to make any comment on the Original Communications with which we are favoured; but we cannot allow this assumption of Mr. Coombs to pass unnoticed. We refer him to the Commentaries of Heberden, and the writings of Drs. Sutton, Scudamore, and many others, to be convinced of the fallacy of his position.—EDITORS.

Having remarked that the derangement in the functions of the stomach or bowels appears to be an effort for the removal of some constitutional disease, I may here introduce the opinion of an ingenious medical friend of mine, who, when speaking on the subject of the *vis medicatrix naturæ*, says, "under this view of the subject, the disorder of the organs of digestion cannot be looked upon as the cause, but the cure of constitutional disease. The necessity for re-action exists, and if the stomach and bowels can effectually contend with the evil and conquer it, the more extended disturbance becomes unnecessary. People very prone to gout are seldom much afflicted in the stomach; the disorder occurs at once, being quickly excited, and the intermediate disturbances do not take place. When the gout hesitates to come on, the disturbance in the stomach and bowels is very great."

In the other symptoms, where particular organs are affected, the relief afforded by a fit of the gout is most conspicuously seen. Cases of epilepsy, mania, and other serious maladies, have been frequently relieved and indeed sometimes cured by it; for in these cases, resulting from an unequal balance in the circulation and not always arising from a general vascular fulness, the symptoms are relieved by determining blood from the affected to some unimportant parts, as to the extremities for instance in a gouty paroxysm.

But however salutary the process of a paroxysm of gout may be, its being attended with considerable pain would render its accession objectionable, particularly as we generally have it in our power to supercede the necessity of its occurrence by the application of medical means. I may here again quote from the same friend, "that natural processes may be often safely and advantageously altered; that new ararngements may be brought about by medicinal means, involving less danger and bringing about quicker relief, than by trusting to the arrangements which these powers would naturally produce." Another principal objection to be made to the occurrence of gout, is, that those who have been once afflicted with it are rendered particularly liable to a recurrence, even from the most trivial accidental causes. Our knowledge of the state of the vascular system attendant on inflammation will readily shew why these parts should be more susceptible of a return of the disease; namely, the arterial vessels, being kept in an enlarged state for some time, lose their tonicity, or, in other words, are rendered incapable of exerting their muscular power in contracting themselves to their former dimensions, and thus a current of blood through them adequate to the production of gout generally supervenes.

The indications for the treatment of the symptoms preceding gout being so clearly pointed out, but little need be said as to the means necessary to be employed for their removal. For instance, in those who are suffering from vascular fulness, our attention should first be directed to diminishing the quantity of blood in the circulation. General bleeding, therefore, together with other antiphlogistic remedies, nauseating doses of medicine, &c. should be used according to the circumstances requiring them. In these symptoms, and in this stage of the disease, drastic purgatives and emetics, such as the eau medicinale, infus. colchic., &c. may frequently be had recourse to with safety and success; they relieve the plethoric state of the body by promoting an increased secretion from the stomach, bowels, and kidneys; thus doing away with the necessity for the accession of a fit of the gout.

In the symptoms preceding gout, and originating from an increased vascularity in any important organ from an undue balance in the circulation, we should endeavour to lessen the quantum of blood sent to the organ; and our purposes will be best fulfilled by abstracting blood from the part by local bleeding, or through the means of counter irritation. In some cases it may be even necessary to have recourse to general bleeding; but the urgency of the symptoms would of course guide the practitioner. The internal remedies should consist of those calculated to determine blood to the bowels or kidneys, soliciting them to increase their natural secretions, as one of the modes of counter irritation. Antimonial medicines will also be of service from the same principle, by increasing secretion from the vessels of the skin.

The indiscriminate practice of giving wine and other stimulants for the purpose of *throwing out gout*, appears to me to be highly improper. That they generally have the effect of producing gout, is certain; acting in a manner that allows of an easy explanation; for, by their stimulating properties, they increase the action of the heart: the stomach and bowels being unequal to relieve the constitution, the necessity for the production of gout in the extremities becomes more urgent, and fortunately for the patient it generally supervenes. Besides, as we know that a sedative effect is at all times the sequel to increased action, we cannot be surprised at the relief sometimes afforded to the constitution by the use of the stimulating plan. In short, the practice is on the Brunonian principle, and may be in many cases attended with a very serious result. Were we to give stimulants to patients having a tendency to a determination of blood to the head, and suffering already, perhaps, with a train of symptoms resulting from it, we should be incurring the risk of producing some fatal affection of the brain, by increasing the flow of blood to that organ. When the local inflammation constituting gout has taken place, it may not be superfluous to remark, that we ought to observe considerable precaution in our manner of treating it, either by internal or external remedies; taking care to bear in mind that as it is a curative process, it may be completing the work which the stomach, or the other organs of digestion, had been making ineffectual attempts to do.

Notwithstanding then the pain attendant on gout, its remaining attached to an extremity for some time is frequently indispensably necessary; for were we to check it suddenly by violent purgatives or emetics, or by the application of cold externally, we should be risking a chance of determining a superfluous quantity of blood to the stomach, or some other organ essential to vitality, when they had already shewn their incapability of re-acting sufficiently for the removal of diseases; and thus produce a fatal result.

From these circumstances we can readily conceive why the use of the eau medicinale has been sometimes attended with fatal consequences; while, on the other hand, its administration has been followed by the most beneficial effects.

In the constitutional treatment of gout, we should pay particular attention to the causes of its production; whether it originates from too large a quantum of blood in the system, or from an improper state in the balance of the circulation; our knowledge of this will direct us as to the means necessary to be employed. We should endeavour to solicit the stomach and bowels to re-act, by the use of gentle laxatives, and to increase secretion from the kidneys by the medicines usually employed for that purpose.

As auxiliaries to the internal treatment of gout, the local applications must next occupy our attention.

If we consider the gouty inflammation of a joint as a diverticulum for a superabundant quantity of blood, there can be no hesitation as to abstracting the superfluity from the part being the plan most rational to be adopted: in short, the result of my practical observations, founded on the inferences deduced from the above reasoning, fully establish it.

Leeches should be had recourse to, and be repeated according to the degree and extent of the inflammation; and the flow of blood from the orifices should be solicited by means of the application of large and warm bread and water poultices.

It will generally be found that the patient will soon recover from the acute stage of the disease, if these means be adhered to; but the parts will be left stiff and painful from the slow inflammation existing. In this stage of the disease, the application of cold water, or the evaporating lotion recommended by Dr. Scudamore, will be found of considerable service, and may be the means of rendering the parts less susceptible of a recurrence of the disease, by restoring the tonic power in the distended vessels.

Having now endeavoured to convey, in a manner as intelligible as possible, my opinions with respect to the cause, progress, and cure of gout; from which may be inferred, that I differ most essentially from those practitioners whose treatment consists in the administration of stimulants, with a view of preventing metastasis to some vital part, or, as they more emphatically express it, for the purpose of *throwing out the gout*.

The object which Nature holds in view in the production of a gouty paroxysm, is the removal of that quantity of blood which is superfluous to the system, in order to prevent its being determined to some organs essential to life; and, for this reason, the parts which are chosen by her for its reception are usually the extremities; they being at once the most remote from the organ to be avoided, and at the same time those from which there are to be apprehended consequences of trivial importance only. With this state of plethora, which, I maintain, does usually exist in the greater number of gouty patients; or even when there is a superfluity or redundancy of blood, or where, from a temporary dispensation in the due balance of the circulation only, some momentous parts are in danger of being surcharged, but which is prevented by the occurrence of gouty inflammation; then, under these circumstances, the ill consequences of sudden removal of the blood from the extremities, by the topical application of cold, must be obvious.

The practice of Dr. Kinglake, in the use of topical cold applications, has, I am inclined to think, shared the fate of a very large proportion of once famous remedies; which, from having been too highly extolled, and recommended as applicable to every case, and every stage of gout, have ultimately been totally abandoned. It may be true, that under certain circumstances the application of cold lotions to parts affected with gouty inflammation is extremely beneficial; but such effect, I am persuaded, can take place only when, prior to the employment of this remedy, the quantity of blood which is superfluous has been extracted, or the patient from any other cause so reduced, as to render safe the return of blood from the affected parts into the circulating system.

AUTHENTICATED CASES, OBSERVATIONS, AND DISSECTIONS,

LIX.—*A Case of Thoracic Inflammation.*

A MEDICAL MAN, of a delicate habit, and between thirty and forty years of age, had been for several months subject to pains of the chest, for which he had bled himself from time to time. I visited him in May 1816, and found that he had, about a fortnight before I saw him, been attacked with what were considered as symptoms ushering in simple fever. For these he lost a small quantity of blood, and put himself under a course of antimonial and saline medicines, confining himself to vegetables and whey. He was extremely languid, feverish, with violent exacerbations of fever at an early hour every morning; at which times the cheeks were of a dark scarlet colour, and the palms of the hands were stained with a circular red spot, the heat of which was so distressing, that he was constantly blowing upon them to keep them cool. These attacks of heat were succeeded by pretty copious perspiration. The bowels were regular; the urine was in sufficient quantity, of a light colour, without deposit. There was scarcely any expectoration, hardly any cough, except after a deep inspiration, after much talking, or from the admission of cold air. The langour and debility were very great. The pulse small, changing in frequency, from slight causes, from between 80 and 90 to 110 or 120. He had literally taken nothing but copious draughts of neutralized lemon juice and of whey, for the last few days; yet the febrile symptoms and heat continued unabated. There was no pain. No marked symptom was present denoting inflammation of the lungs. The symptoms, with the exception of the appearance of the urine, put on rather the hectic character.

I opened a vein, and, from the appearance of the blood, was led to fill four tea-cups with it, each containing three or four ounces. The crassamentum was very much cupped, very tenacious, and the buff extremely thick. In about twelve hours four cups more of blood, of a similar character, were taken away, and within the next thirty-six hours eight cups more were filled. At each time of bleeding he was so weak that he could scarcely turn in his bed. The whole quantity of blood removed was computed at sixty or seventy ounces. The febrile symptoms shewed some disposition to abate in violence; but he complained of a slight pain in the left side, from which part a small quantity of blood was removed by cupping and by leeches. In spite of all this treatment, the febrile symptoms were yet very strong and distressing. The bowels were kept in a proper state, and four of the following draughts were given in the course of every twenty-four hours:

℞ Plumbi Acetat. gr. j.
Ext. Papav. Alb. gr. v.
Acet. vulgar, f ℥ss.
Aq. font. f℥i.—M. Ft. haustus.

The dose of the acetate of lead was increased, until that he took five grains every twenty-four hours. The vegetable regimen was continued. He persevered in the use of the lead and vinegar for about three weeks, and under the use of it the febrile symptoms gradually subsided, and he became convalescent. He has continued to follow the exercise of his profession, in which he is now (July 1817) actively engaged.

PART II.

ANALYTICAL REVIEW.

I.

1. *Remarks on Insanity; founded on the Practice of* JOHN MAYO, *M.D. Fellow of the Royal College of Physicians, and tending to illustrate the Physical Symptoms and Treatment of the Disease.* By THOMAS MAYO, B.M. Fellow of Oriel College, Oxford. 8vo. pp. 90. London, 1817. Underwood.
2. *Observations on the Casual and Periodical Influence of particular States of the Atmosphere on Human Health and Diseases, particularly Insanity: with a Table of Reference to Authors.* By THOMAS FORSTER, F.L.S. 8vo. pp. 89. London, 1817. Underwood.
3. *Observations on the Phenomena of Insanity, being a Supplement, &c. (vide preceding Article).* By the Same. pp. 30.
4. *Report of the present State and Management of the Hospitals for Insane Persons at Paris; translated from an Official Report on the Hospitals in general of that Metropolis: with an Appendix.* 8vo. pp. 63. London, 1817. Underwood.

1.—IF it be objected that the subject of Insanity occupies too many of our pages, let it not be imputed to us as a predilection or a fault, but to the general interest recent events have attached to it, and to the commendable zeal displayed in elucidating more fully one of the most afflicting and neglected of maladies to which suffering human nature is exposed.

Having, in a late review of Dr. Spurzheim's work on Insanity, so largely dilated upon the subject, we intend being as succinct as possible in our observations on the present occasion.

But the "REMARKS" of a learned, experienced, and respectable Physician, tending *to illustrate the physical symptoms and treatment of Insanity*, must excite no ordinary interest. These Remarks, however, are written by Dr. Thomas Mayo; but for what reason the Son becomes the substitute of a Father himself so well qualified, we are totally uninformed. This bifold composition is certainly as perplexing as it is novel; and, from an apologetic note, the authors seem sensible that it is exposed to some degree of animadversion.

This Essay is dedicated to Lord Colchester; a circumstance, perhaps, immaterial, were it not that, in his address, Dr. T. Mayo says, that "it treats a subject so interesting in its nature, as almost to have been wrested by the Philosopher out of the hands of the Physician:"—a sentiment so just, and so much in unison with our own, that we shall again avow our conviction, that, until the subject of insanity be treated as one more peculiarly the province of the physician than the moral philosopher, little progress will be made in developing the cause, or any effectual improvement in the treatment of it.

Our author premises that he comprehends those forms of madness which are viewed by the French writers under "*Manie et Melancholie*:" in describing which, however, he does not pretend to imitate them; neither, in adopting those terms, does he accept the division they import; because, says he,

> "I find the phenomena of mania and melancholia run too much into each other, to permit their being represented as maladies distinct in kind."—p. 3.

And he very truly observes, that the distinction endeavoured to be drawn between the two has its foundation in moral rather than in physical causes.

The opinion of modern authors, both French and English, on the pathology of insanity, are next noticed; and the various essays of Drs. Pinel, Esquirol, and Du Buisson are referred to, to prove "that the physical pathology of the disease occupies a place secondary to its mental pathology;" and that, although in the works of Drs. Arnold and Crichton, and even in that of Dr. Haslam, we find many pathological histories, yet there is in all of them too much that relates to the mind, and very little to the body. Our author adds,

> "It has very frequently been urged that little connexion can

be traced between the phenomena, which dissection lays before us, and the prior phenomena of the disease. Such must be the case, as long as observations continue to be made on the plan above noticed. Are there any laws of the economy, through which thickening of the membranes can be traced to depression or elevation of spirits? Between this fact indeed, and the physical symptoms of inflammation, there is a well-established bond of connexion. Surely it is with the physical, and not with the mental symptoms of the living subject, that we must expect to associate appearances that disclose themselves after his death."—p. 8.

He also objects to Drs. Mason Cox and Du Buisson, that it is surprising they should have found "so much to be said on physical treatment, and so little respecting physical symptoms."

In adopting the term Mania, the Drs. Mayo (we must sometimes speak plurally) do not accept it as opposed to Melancholy.

The grounds they assume for their pathological views of mania, are thus introduced:

> "To regard insanity as an object of attention with reference to its mental phenomena while the disease is quiescent, and to repress it by coercion and medical measures while it is raging, is the first plausible suggestion that would occur to the physician.
>
> "The disease, under this treatment, appeared to my father uncertain of obtaining a present cure; the patient was very liable to relapse. He looked more attentively at physical symptoms; he saw the insidious ravages of the disease in derangement of the general bodily functions, even while it was apparently quiescent. He saw slight, but daily, exacerbations indicated by increased action of the carotids and flushing of the face, and heightened from time to time into forms of violent febrile excitation. At length, when the slow process should have achieved its purpose, when disorganization of the part might be supposed to have taken place, he saw the functions of that part, namely, the mental powers, sink into such total ruin, as morbid anatomy teaches us to associate with disorganized structure.
>
> "Thus there appeared, as an object of treatment, a process of increased action forming the basis of the disease, paroxysms of heightened violence occasionally supervening."—p. 11.

Dr. Haslam's dissections of the heads of insane persons are mentioned, as best illustrating (although Dr. Marshall's, in our opinion, are equally relevant) the increase of action connected with mania, as well as of the prolonged and continuous nature of such vascular excitation: and the opaqueness of the tunica arachnoides, so commonly seen, is considered as especially indicative of this continued process of increased action. "In consideration of its influence on our view of the subject," the question is discussed, whether this constitution of parts is to be viewed as effected "by a slow process of increased action, or merely as the sequel of an acute paroxysm, such as frequently occurs in the disease, and is analogous to a phrenitic attack?"

Having, as they conceive, established, by induction, these data, our authors proceed to the details of their pathology and mode of treatment. But these subjects are so blended, that, to explain their views, it were preferable, perhaps, to give, after their own example, a summary of them, with such comments as occasion may elicit.

Accordingly, mania, we are informed, is attended by increased vascular activity in the circulation of the brain; and, in as far as this increased activity is prolonged and uninterrupted, a depletory discipline must be continued; that as the disease lurks in an insidious form, even after its active effervescence may have been subdued, the same discipline must be sought for to combat it; for "though the paroxysm of mania be subdued, it leaves a mitigated excitement behind, which, unless followed to its close by depletion, will revive the disease."

> "The disease at its commencement seems inclined to adopt what we may call a remittent course, consisting of paroxysms or violent exacerbations, with intermediate states of comparative quiescence. This form of the disease ends in another, which may be termed its continuous state;—not absolutely distinct in kind from the former, but one in which the states of excitement have been so much reduced, and that of quiescence is so much elevated, that this term seems nearly applicable from the uniform appearance which the disease then assumes."—p. 20.

This is our author's sketch of the disease, as viewed in relation to its physical symptoms and the treatment which those symptoms indicate.

The importance of seizing the features of it at an early period, he founds upon three considerations:—1. that the time required for effecting a cure is short in proportion to the earliness of the period at which it commenced: 2. that the patient, while left unmolested by depletion, is in personal danger from the effects of his own moodiness: 3. that the mildness of a paroxysm, when it supervenes, is in proportion to the activity of depletion with which it has been preceded.

Some of the symptoms common to insanity are then detailed; but as the Drs. Mayo profess that they are viewing "the disease in relation to the plan of treatment which we recommend, and to the symptoms on which it is founded, they decline invading that extensive subject"! This conclusion pre-supposes an entire knowledge of all the usual symptoms which characterize insanity, and renders what is said on the diagnosis of little utility to any but those experienced in all the phenomena of it.

The pulse, it is remarked, if it be not more frequent than in health, is quicker in each individual beat, and there is a disproportionate action between the carotids and the radial arteries; that venesection or cupping in such a state of the disease will often produce evident temporary excitement, amounting to a paroxysm; that during the remittent stage bleeding often evidently occasions head-ache, "where head-ache has been the only phenomenon wanting to complete a set of symptoms usual [usually] co-existent."

"The history of apoplexy," adds our author, "points out with sufficient evidence, that if there is a state of overactive circulation, which produces head-ache, this state, heightened to a more intense degree, will produce a heavy stupid feeling rather than pain. Thus the process which lessens vascular action may occasion head-ache." —p. 24.

Are we thence to deduce, that the head-ache resulting from depletion during the remittent stage of insanity is a desirable symptom, in addition to those already existing? that over-active circulation, already producing head-ache to so intense a degree as to bring on coma, is to be preferred? and, therefore, that the process of depletion, which lessens vascular action, is to be pursued for the purpose of super-inducing head-ache?

To justify his reasoning and inferences, Dr. T. Mayo, in a note, quotes the practice of Drs. Scott and Curry in those sympathetic affections arising from disorders of the liver, and the circumstance, that cupping has developed the pain in that viscus, and removed it from the sympathizing limb. But we cannot allow that the analogy here attempted holds good.

But the authors profess that it is their main object to induce a continuous form of insanity, as being the general precursor of permanent recovery; and pronounce, that, "under an interrupted process of depletion, the disease proceeds through paroxysm and remission until it has reached" this desired (continuous) condition; and that up to this point the course of the disease lies ordinarily through paroxysms or exacerbations, diminishing in violence, but increasing in duration: finally, they present, as adapted to these considerations of the disease, their remedial plan, which consists

"in occasional cupping or bleeding,—of the use of issues or setons,—of continued purgation,—of nauseating medicines,—finally, of the class of sudorific and refrigerant medicines. To this last-mentioned class of remedies we attach, however, very secondary importance." —p. 26.

But although the system of depletion be so strongly recommended during a state of remission, yet our authors appear to vacillate in the line of practice which ought to be pursued during a state of paroxysm.

“ A paroxysm is throughout to be resisted by medical means; but those adopted while it is impending seem most effectually to determine its magnitude. On the question of depletion during the paroxysm, there are contra-indicants to be considered. The patient is in danger from exhaustion. Depletion has a direct effect in weakening him, an indirect effect in preventing his weakness by lessening excitation.”—p. 28.

The latter sentence leaves us rather at a loss to decide, whether we should chuse depletion on account of its direct or indirect effect, since it appears it may produce two effects so very opposite, as *causing* and *preventing* weakness. But let us proceed:

“ Sometimes indeeed the complaint exhausts itself in one great paroxysm, and out of that at once becomes continuous. Sometimes, though rarely, it will terminate with the paroxysm. We regard this, however, as one of the most important advantages of continued depletion, that such violence of paroxysm is usually prevented by it; since violent paroxysms are often fatal to the patient. Yet are they the effect of that misjudging cautiousness which intermits depletion as unnecessary during the remission, or even prepares a portentous reaction by prescribing tonics to obviate the effect of previous depletion. Our treatment appears at once to bring forward and to modify the states of excitement in madness. Such have been its effects where the disease has been proceeding for months, even for years, in the form at first described; symptoms increasing indeed, but maintaining their passive character. At such a period, by bleeding and the use of purgatives, we have at once brought forward the disease in the shape of modified paroxysms. Had it continued its sullen march, it would at its own time have burst perhaps into a fatal paroxysm, or have slowly proceeded into *fatuity*.”—p. 29.

Little reliance is placed on any remedies, except such as come within the scope of depletory. Sedatives, or rather narcotics, are casually noticed. Stramonium and belladonna have been tried by Dr. Mayo, sen. till the fauces were dry and the pupils dilated; but he never saw any good obtained from their use; except once, when he treated a case of puerperal fever with stramonium: opium he also but once found beneficial, where insanity had been produced by intoxication. In the enumeration of sedatives, we are surprised to find the digitalis wholly omitted. The most satisfactory evidence has been adduced of its influence on the circulation; and, according to our authors' theory of mania, we should have thought it a most important adjunct to their curative plan of treatment.

Some very judicious remarks follow respecting hereditary insanity; which hitherto has been weakly supposed to require a different course of treatment to occasional insanity.

“ If we are correct in our sentiments,” say the Drs. Mayo, “ on the subject of depletion, we are bound to impress them on the minds of those who start at the debility occasioned by depletion, continued even into the apparent intervals of the disease. If the patient be weakened during the remission, he is on the other hand ensured against falling a victim to the paroxysm." This may be true; but such reasoning affords little assurance of confidence in their own practice: in truth, it leaves no alternative between idiotism and death. The termination of the continuous stage, which the Drs. Mayo are so anxious to produce, they say, may be produced at once, as far as mental aberration is concerned, and the patient be instantaneously restored to the fulness of his intellectual and moral properties; but his physical progress may probably be less rapid: although they have been gradually improving, yet the improvement of the mental symptoms, we are assured, is, however, ordinarily as progressive as those of the body.

Although the general necessity of practising daily depletion throughout the continuous stage is urged, yet at this period, it is remarked, it must not be pushed to the same extent as formerly. Strong purgatives, we are advised, even when their operation has not been violent, (by-the-bye, we have always believed that the strength of a purge is indicated rather by its operation than its proportions,) will often, during this stage, produce fainting: nevertheless they are serviceable. Caustic issues behind the neck *apparently* do good at this period. The recovery of a patient has been evidently promoted by the copious discharge from an accidental burn; but during the remittent form, a similar accident has occurred without any advantage.

A capricious and fanciful depression of strength is said often to attend the continuous stage of mania, that this depression is lessened (a *fanciful* depression lessened!) by the processes of depletion, and, it is added, that there is frequently indeed much *real* weakness, attended even by anasarca. That such a state may appear to indicate the exhibition of tonics is acknowledged; but it is asserted that tonics do harm in this case "as far as the disease is concerned;" for that while the enfeebled frame *demands* their aid, and while they are operating, mania is gaining ground; and at all events it will be less dangerous to strengthen by a tonic regimen than by tonic medicines.

Our perceptive faculties we fear are not yet sufficiently developed; for we confess, that in pursuing the authors' theory and practice, we are quite led beyond our powers; and the following passage makes us totally despair of arriving at a clearer view of either: perhaps our readers may be more fortunate:

"Again, if efforts made without avail to resist sensations of feebleness and muscular debility could prove the reality of such feebleness, it has possessed the strongest evidence of its being genuine, that proof of this kind can supply. Where the philosophical efforts of a well-regulated mind, assisted by bark and steel, have been defeated, the patient has obtained strength out of weakness, and has been re-established by a course of unintermitted, though gentle, depletion." !—p. 38.

Dr. T. Mayo next proceeds to consider the sympathetic or simultaneous derangement of other organs besides the brain; but this part is very slightly touched upon, and, in our opinion, too slightly, considering how frequently insanity is sympathetically excited.

Some observations succeed on the treatment of mania when appearing under the cloak of other diseases and in an acute form, and wherein, no doubt, the depletory practice may be very judiciously adopted.

In reply to the self-put question, what is our prognosis?, our authors answer, that they "do not consider long prior duration of the disease in itself, and absolutely, an unfavourable circumstance."

> "If the disease have passed into its continuous form, without the co-operation of medical discipline, this we hold an unfavourable occurrence. The disease may, however, at the end of many years, still be remittent, with nearly the same symptoms with which it commenced. In the continuous state œdema is a frequent precursor of recovery. Should the disease go backward, and a paroxysm or severe exacerbation be threatened at this period, as the action of the carotids rises, the œdema will suddenly disappear."—p. 53.

Other prognostics are stated; but they are such only as every one acquainted with insanity must have seen and decided upon.

We have thus endeavoured to give as faithful an outline of the pathological and therapeutical views of the Drs. Mayo as the complexity of the arrangement of the work will permit.

In anticipation, our authors next proceed to the consideration of the *Objections* likely to be oppugned to their views regarding insanity. Objections to those views we candidly avow we entertain; and these we shall, with all due deference, briefly detail. Of course we, as well as the authors, exempt insanity arising from vice of conformation, or from accidents producing disorganization of the structure of the brain, from present consideration.

Fully conceding, that the majority of examinations of the heads of maniacs exhibits unequivocal proofs of morbid excitement of the vascular system, or of organic lesions, yet it does not follow, consecutively, that because such is the most frequent state of the encephalon, that these morbid appearances are invariably seen in the heads of all those who have died mad. On the contrary, it is known that sometimes no morbid appearances at all can be discovered. For authority, we might appeal to many British and foreign pathologists; but we will refer to one only, whose testimony will perhaps be respected by Dr. Mayo as much as it is by us; it is that of Dr. Esquirol. In the comprehensive view, which that physician has taken of insanity in the celebrated article in the *Dictionaire des Sciences Médicales*, under the word "*Folie*," he concludes his pathological inquiries by nine corollaries; the sixth of which is, "*Beaucoup d'ouvertures de corps d'aliénés n'ont présenté aucune altération quelconque.*"

Now we will admit that some alteration or peculiar modification of the cerebral structure may exist, although imperceptible to the eye on the most minute research, and that this may affect the cerebral functions so as to produce lesion of the mind. But if this change of structure be incognizable to our gross perceptions, and while the physiology of the brain is so defective, are we justified in urging the efficacy of any specific methodus medendi upon the mere presumption of what cannot be demonstrated? If this cannot be answered in the affirmative, does the negative prove it? Will analogy support it? No! The majority of the crania of insane persons presents on examination a great variety of morbid appearances. But has not every morbid appearance, exhibited in the skulls of the insane, been displayed in those who have died of other diseases, but who were perfectly sane? and have not various organic lesions been discovered within skulls, the existence of which, during the life of the possessor, could not, *à priori*, have even been suspected?

Insanity will often and long remain, when the physical cause whence it originated has ceased; and this may be the case whether that cause be an increased impetus of blood, or loss of balance of the circulation, or viscera morbidly affected. That derangement of the intellectual functions often proceeds purely from disordered circulation, is strongly indicated by the discrepancy in the stroke of the heart with the pulse of the carotids, or the radial, or other arteries: an anomaly common in persons actually insane. Local determinations of blood are likewise frequent in those who are insane; but so are they also in the sane. But these irregularities, and many other derangements of health, consist only in morbid actions, not always effecting changes of structure.

These facts have induced the inquiry whether insanity be an idiopathic or symptomatic affection?

In some observations on the pathology of insanity which we think ourselves authorized to pursue a much more vigorous system of depletion than is laid down in these "Remarks." But the elder Dr. Mayo advises the depletory system, "as the most applicable in *advanced* states of insanity—as the most certain of effecting a present cure—the least liable to end in subsequent relapse."

With the French writers we cordially coincide, and pronounce that such practice, without a much greater degree of discrimination than the Drs. Mayo inculcate, will, generally, lead to a state of fatuity. But a state of *fatuity*, say they, is not inconsistent with their views! If it be not inconsistent with their views, that the complaint should terminate in fatuity, we would inquire how such opinion squares with that in the passage already quoted (p. 490), where it is more than implied, that, next to a fatal paroxysm, *fatuity* is an evil most to be deprecated!

It is impossible to refrain from feeling some apprehension for the consequences of the generalizing principle our authors so unguardedly advance. They must be perfectly acquainted, that *Démence*, is a generic term, admitting of several species; and that M. Esquirol divides these into simple and complicated: and yet they use *démence* and fatuity as synonymous. We are also told that the French deem démence "very difficult of cure, if not incurable;" while they (the Drs. Mayo) look upon "this form of mania as a natural forerunner to recovery!" Now the acute form of it, which must be the form our authors similate with fatuity, and so much desire to produce, M. Esquirol says (See *Dict. des Sciences Medicales*, tom. viii. p. 292) *is easily cured;* not, however, by depletion, but with the aid of regimen, tonics, frictions, exercise, baths, &c. &c. But it is the chronic form which is so difficult of cure; the cases of which are represented to be in the proportion of seven to two of the acute: and it is into the chronic form of démence that we conceive the practice of the Drs. Mayo will inevitably lead, if it be exercised in the indefinite manner they recommend.

Ample room as there may be for complaint of neglect or ignorance, yet we must not, in our fervor for improvement, conclude that there was nothing regarding the treatment of the insane to commend or worthy of attention prior to the late inquiry. Every observer has not been blind; and we are bound to regard with respect the remarks of experience, even although they may not emanate from doctoral authority. We are told by the intelligent and philanthropic Tuke, that, in violent maniacal paroxysms, depletion having failed to procure quiescence, a full meal of meat and good porter for supper produced the desired effect; and that "this mode has since been very frequently and successfully employed." Now it follows, that if Mr. Tuke, and there are others coinciding with his opinions and practice, is correct, that the Drs. Mayo cannot be right in their general principle of pursuing depletion through "paroxysm and reremission:"—either Mr. Tuke, and those acting like him, or our authors must be wrong. Whenever novel views of disease are promulgated, introductory to a novel system of therapeutics, it behoves every medical practitioner to investigate the grounds on which they are founded. However high or respectable in professional rank, and although he may have had as "extensive practice" as we are told Dr. Mayo, sen. has had in insanity, yet we cannot allow that even such pretensions justify the withholding of the details of the cases which have led to such inferences and practice: nor is it likely that the public will accept the reason offered at the end of the fourth chapter, as an excuse for the omission of them.

Anxious as we are for information on the subject of insanity, and knowing as we do the ability of both these learned physicians to illustrate every subject within the circle of medical science, still we cannot but lament that they have not been more explicit. We know our fallibility; and we hope we are open to conviction; but until further proofs establish the efficacy of our authors' system, we cannot discard our doubts. A full description of mania might be dispensed with; but an accurate detail of the cases in which the practice recommended had been successful, would perhaps have deprived scepticism itself of every pretence for cavilling.

There is one obligation, however, which Science decidedly owes to the Drs. Mayo, and which may have consequences infinitely more important than may strike indifferent observers. In the concluding paragraph, as well as in the dedication, they declare that "one principal object of the Remarks has been to arrest the encroachments of metaphysical speculation on the pathology of madness." They who know how difficult it is to divest themselves of tenets imbibed from *Alma Mater*, and which, perhaps, have been cherished as undisputed dogmas of scholastic faith, will appreciate, in two learned Members of the University of Oxford, this proof of liberal and independent minds; which scorn the mazes of metaphysics, when leading from the paths of true philosophy, and retarding the attainment and diffusion of useful knowledge.

2.—As the second book coming under review affects to offer Observations relating *particularly* to Insanity, we perused it with a view of examining if it contained ought worthy of our readers' notice; either in regard to what it professes to treat of, or to health, or disease generally. With the author we are unacquainted; except as a disciple and ardent admirer of the doctrines of Drs. Gall and Spurzheim, and, as an advertisement at the end of this pamphlet announces him, as a great enthusiast in speculative and abstruse inquiries.

It will be remembered that Dr. Spurzheim, in his work on Insanity, offers some ingenious remarks on *Periodicity*, and its effects on the human system. Mr. Forster fancies, we suppose, that he can elucidate what his master and friend, with all his learning and ingenuity, has not been able satisfactorily to clear up; and therefore he ventures boldly into the field to inform us of what none will deny — that the influence of the atmosphere has a sensible effect on our bodies, and is the cause of epidemic diseases. But he has discovered, beyond dispute, that there is a periodical influence occurring twice in twenty-eight days, which affects the brain and nervous system; that it differs in different persons; that the symptoms of insanity are worse about this time; and that a great many other terrible things happen about these periods:—information that must alarm all the good housewives in England, and be very useful to the Editor of Moor's Almanack. We are also told that there are "diurnal periods of diseases," inducing paroxysms: for instance—about noon—at two and six o'clock—at midnight, &c. &c. That there are likewise periods which occur every second, third, or fourth day; that there are diseases having corresponding periods; that all these evils, enough surely to embitter the happiness of greater stoics than we are, are visited upon plants, and all animals, quadruped as well as biped; and, finally, that Insanity should be placed among nervous diseases!

They who profoundly seek to explain the phenomena of disease agreeably to the phases of the moon, or "suppose the influence of the stars to have a causal power," or attempt to identify the disorders to which humanity is subject, with atmospheric variations, must extend their "Researches" far beyond the "Modifications of the Clouds;" and, without reference to obsolete authorities, trust only to the guidance of their own observations. Nor will their conclusions on such subjects be tolerated, till time has stamped upon them who "vex the planets," the seal of unerring experience.

3.—Scarcely were the sheets of the foregoing pamphlet dry, when, lo! another, in supplemental form, appears from the prolific pen of the same author.

Second thoughts are best, says an old adage; and Mr. Forster exemplifies the truth of it. To speak with candour, this posthumous effort is very superior to its parent. It is evident, however, that we are under more obligations to Dr.

Thomas Mayo than to the ostensible author for its birth. Had the former not published his "*Remarks*," this "*Supplement*" to the "*Observations*" would never have seen the light.

Our author seems to have been quite electrified by the perusal of his friend, Dr. Mayo's, Essay. He has warmly and unreservedly adopted his pathological and therapeutical views; and with the assistance of the doctrines of his other friends, Drs. Gall and Spurzheim, and with the aid of his own important discoveries, has so amalgamated the whole as to form a very specious theory; which cannot fail of being highly acceptable to—those who coincide in opinion with the writer.

We congratulate him too upon a real improvement; which, considering the short space which elapsed between the appearance of these two pamphlets, is very creditable to his judgment: we allude to the correction of his style of composition. It is so much amended indeed, that we can hardly credit that both were written by the same person. Seriously, we believe that this gentleman has respectable talents; and when passing years have corrected the ardour and enthusiasm of youth and matured his judgment, we entertain expectations of his producing works more worthy of himself and the sciences to which he seems devoted.

4.—This short pamphlet is prefaced by an epistle to the Hon. H. G. Bennett, M. P.—a gentleman to whose zeal and ability the public are much indebted, for the late Inquiry and Report into the State of Mad-houses in the United Kingdom, as well as for many other useful labours. It conveys many judicious observations. The writer very delicately, but justly, points out several egregious errors in the late measures contemplated by the Legislator for the amelioration and improvement of the state of the insane. Upon this subject, we will not dilate, because we have already stated our sentiments upon it at great length[*].

The Report is an extract only, translated from a quarto volume, published under the authority of the French Government, intitled, "*Rapport fait au Conseil Général des Hospices, par un des ses Membres, sur l'Etat des Hôpitaux, des Hospices et de Secours Domicile, à Paris, depuis le* 1^er^ *Jan.* 1804, *jusqu'au* 1^er^ *Jan.* 1814."

This, being a mere official document, does not in itself admit of analysis. Its details however at this juncture are peculiarly important, when so many provincial asylums for the insane are about to be erected in this, and the Sister Kingdom*. For the fidelity of the report, we can in many particulars, from personal observation, vouch; and we recommend its perusal to all who are interested in the subject†. Several very fully and clearly constructed tables, embracing different views of the progress of insanity in the Hospitals of Bicêtre and La Salpêtrière, are annexed; with some expressive corollaries upon them by the physicians, M.M. Hebréard and Esquirol.

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[*] *Cursory Remarks on a Bill for the Regulation of Mad-Houses.* By G. M. Burrows, M.D.

To this Report the translator, who evidently possesses judgment, and evinces that he has paid considerable attention to the subject, adds a copious Appendix, containing his own "Suggestions for the Construction of Hospitals for Insane Persons," with an engraved diagram of a plan of a building for this purpose.

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* From a friend in Dublin, not less distinguished for talents than for the rank he holds in the profession, we have been favoured with the subjoined; which may be an object of interest, especially to our Irish readers:

A SKETCH *of a Division of Ireland into Four Districts; an Asylum for the Lunatic Poor to be attached to each.* Submitted to the consideration of Government 4th of September, 1817.

No. I. — Counties of, 1, *Donegal;* 2, *Derry;* 3, *Antrim;* 4, *Tyrone;* 5, *Down;* 6, *Armagh:* 7, *Monaghan;* 8, *Fermanagh.* The Asylum to be capable of accommodating 150 patients, and to be placed in the vicinity of Belfast.

No. II. — Counties of, 1, *Dublin;* 2, *Louth;* 3, *Cavan;* 4, *Meath;* 5, *Kildare;* 6, *Wicklow.* The Asylum to be capable of accommodating 150 patients, and to be placed in the vicinity of Dublin.

No. III. — Counties of, 1, *Kilkenny;* 2, *King's County;* 3, *Queen's County;* 4, *Carlow;* 5, *Wexford.* The Asylum to be capable of accommodating 100 patients, and to be placed in the vicinity of Kilkenny.

No. IV. — Counties of, 1, *Westmeath;* 2, *Mayo;* 3, *Galway;* 4, *Leitrim;* 5, *Sligo;* 6, *Longford;* 7, *Roscommon;* 8, *Clare.* The Asylum to be capable of accommodating 150 patients, and to be placed in the vicinity of Athlone.

The existing lunatic asylum for *Cork,* united to *Kerry,* to be enlarged if necessary.

The existing lunatic asylums in *Limerick* and *Waterford,* and in *Clonmel* for the County of *Tipperary,* to be enlarged if necessary.

To The Rt. Hon. ROBERT PEEL. (Signed) GEORGE RENNY.

† In our Review of Mr. Cross's *Sketches of the Medical Schools of Paris* (*Repository,* vol. iv. pp. 370-470.), we gave an ample account of the French hospitals; and we embrace this occasion to mention how much satisfaction we derived this autumn from a personal inspection of them. Dr. BURROWS had an opportunity of contrasting the present state of these hospitals, but more particularly of the insane establishments in and near Paris, with that which they exhibited in 1802; and he thinks it an act of public justice to testify, that the whole of them appear to him to have since received very great attention and consequent improvement.

These suggestions offer very many useful hints, also well worthy of consideration; but we by no means think the plan unexceptionable: it neither admits of a proper classification according to the degrees or species of insanity, nor of an efficient superintendance of the patients. Other objections might be urged, if space permitted.

Anxious as we profess to be to promote every scheme which appears calculated for the recovery of the insane; and where that cannot be expected, for the maintenance of them in that degree of health, comfort, and security, of which their afflicted condition is susceptible; yet we cannot omit this opportunity of urging those concerned in the construction of such places, not to be too precipitate in carrying their designs into effect. An immense mass of useful information, it is true, is already before the public; yet such is the general interest excited, that we feel confident much more will be elicited, from the laudable determination of the Legislator to give the subject, in every point of view, a full and dispassionate consideration early in the next sessions of Parliament. But we believe, that however excellent some of the proposed plans are, yet that there is none of them so perfect but it will admit of improvement. We know too, that the Report of Dr. Esquirol, who has been commissioned by the French Government to inspect all the insane establishments, both public and private in France, is speedily to be published; and we expect that, from this source, much additional matter will be obtained, that may contribute in no inconsiderable degree to the accomplishment of an object so dear to humanity, as the restoration of the insane to their intellects, to their families, and to society.

II.

An Essay on the Chemical History and Medical Treatment of Calculous Disorders. By Alexander Marcet, M.D. F.R.S. &c. &c. 8vo. pp. 118, and 10 plates. London, 1817. Longman and Co.

It is truly gratifying to contemplate the change of opinion which the last twenty years have produced with respect to the importance of Chemical Science as a collateral branch of medical education. It is now generally and minutely studied; and the pathologist willingly admits, that chemistry, in aiding his labours, has, like irrigation, fertilized a soil, which, if hitherto unproductive, was so only from the deficiency of knowledge in the cultivators to draw forth its riches. In no part of medical science, however, has the influence of chemistry been more conspicuously displayed, than in the light it has thrown upon the nature of calculi, and the consequent improvements which have resulted in the treatment of calculous disorders. Hence the great value of every work that can render this species of knowledge more familiar to the practitioner; a fact which must plead our apology for bringing before our readers this volume so immediately after its publication, while many interesting works of prior date still remain unexamined.

The object of Doctor Marcet's Essay, to employ his own language, "is to describe and illustrate, by means of accurate engravings, the characters by which the different calculi may be distinguished; to indicate the easiest analytical methods by which their chemical nature may be ascertained; and to point out the modes of medical treatment which afford the best prospect of success." In fulfilling these intentions, he has divided his subject into eight chapters; and although each of these may be regarded as in some degree a distinct essay, yet, by the judicious arrangement he has adopted, every one seems a necessary link in the chain of information, which the whole is calculated to complete.

In the first chapter, which treats "of the different situations in which calculi are found in the urinary passages, and of the symptoms which they respectively produce," our author sets out with assuming the position, that as these concretions occur "independent of any specific agency of the urinary organs themselves," they "are liable to form in any of the cavities to which the urine has access;" but at the same time the particular form of some of these parts, and other circumstances either natural or morbid, facilitate in them the deposition of calculous matter. Thus in the *kidney*, from the peculiar structure of the organ, producing "a kind of double filtration of the urine, which is highly favourable to the deposition of an undissolved calculous matter," concretions are frequently formed. Our author has exemplified this fact by two engravings of kidneys from the collection of Mr. Abernethy; in one of which the pelvis is greatly enlarged and distended with separate calculi closely pressed against each other, and in the other the concretion is a single mass moulded exactly to the form of the cavity, greatly distended, however, with all its ramifications. In both, the texture of the gland is much altered. In cases of this nature, the secretion is carried on by the other kidney; but occasionally, as Dr. Marcet remarks, "both kidneys are diseased to a most remarkable extent, and yet life is preserved for a considerable time." When the kidney is thus distended, the concretions usually extend into the superior part of the *ureters*, expanding it into a kind of pouch, while the coats of the tube below it are considerably thickened. We are rather surprised that our author has not mentioned the total obliteration of the canal of the ureters, which now and then takes place when the pelvis of the kidney is filled with calculous matter, two cases of which have come under our own observation. He notices, however, a circumstance of rare occurrence, that concretions may form in the duct itself; and states that he has seen "an instance in which the internal membrane of the ureters was lined with a calculous concretion."

The situation of calculi in the *bladder* is illustrated by two engravings; in one of which the stone, as in the majority of cases, lies free in the viscus, the coats of which are much thickened and contracted round it; while, in the other, "several calculi are seen enveloped and fixed in distinct cysts or rugæ, formed in the substance of the bladder." He mentions an instance of a single stone being incysted in this manner which weighed 3088 grains; and yet the patient "never had the usual diagnostic symptoms of the stone, namely, sudden stoppage of urine, pain in the glans penis, &c. and he had never consented to be sounded." The stone was found after his death, and consisted of two distinct masses of lithic acid, cemented together "by an intervening layer of crystalline triple phosphate." The manner in which small calculi are occasionally impacted in the urethra is also illustrated by an engraving from a preparation of Mr. Abernethy. The stone is spheroidal, and the coats of the canal are very much thickened, particularly round the place where it is fixed. This case, adds our author, "is the more instructive as the stone was first mistaken for a stricture, and an attempt was actually made to destroy it by the caustic." The representation of another preparation from the collection of the same gentleman serves to exemplify the formation of calculi in the *prostate gland*, when these were found embedded in its substance; and the manner in which they form a cyst in the lobes is also displayed.

The symptoms attending the presence of calculi in the different situations we have noticed, are next briefly described by Dr. Marcet. Among those diagnostic of stone in the *kidney*, he has overlooked one of the most striking, and which is so much the more necessary to be mentioned, as it is not observed to occur in mere inflammation of the kidneys when no calculus is present. We refer to the dark appearance of the urine, as if it were mixed with coffee grounds, evidently depending on broken-down particles of blood, proceeding from the obscure but continued irritation of the kidney. When this occurs, in conjunction with a dull heavy pain in the loins, there can be very little doubt of the presence of calculus in the kidney. Our author justly remarks, that a decisive diagnostic symptom of the presence of calculi in the *prostate gland* "is still wanting." He notices a case, which came under the observation of Mr. Astley Cooper, "in which this pathological point was clearly decided by manual examination." A sensation of grating at the neck of the bladder was perceived on passing a catheter, "and the finger being introduced into the rectum, some calculi could be felt moving in a cyst within the prostate;" an operation was proposed, but objected to by the patient, who died a few years afterwards, when the prostate was found to contain a number of calculi.

The second chapter, which treats "of the different prevalence of urinary calculi in various districts and hospitals, and of the comparative frequency of the disease in different countries," contains some curious and interesting matter; but we must lament with our author, that this account is much less complete than might have been expected, owing to no regular, or at least ostensible, records of the cases of lithotomy "being preserved in many hospitals, and particularly in the largest hospitals of London, St. Bartholomew's, St. Thomas's, Guy's, and the London hospital." The only place from which a very accurate statement was procured by him was the Norwich hospital, in which a regular register of the operations has been kept, and the calculi extracted preserved, for forty-four years. To this collection our author had access, and was furnished with an abstract of the records annexed to the calculi, from the details of which the following table was constructed.

Returns of the Cases of Lithotomy in the Norfolk and Norwich Hospital, from 1772 *to* 1816; *making a period of* 44 *years.*

	Number of Operations.			Deaths.		
	Children under 14.	Adults.	Total.	Children.	Adults.	Total.
Males......	227	251	478	12	56	68
Females...	8	20	28	1	1	2
	235	271	506	13	57	70

"It appears from the above table, that the mean annual number of cases of lithotomy in the Norwich Hospital, during the last forty-four years, has been 11½, or 23 in every two years; and that the total number of fatal cases, in the 506 operations, is 70, a proportion of deaths corresponding to 1 in 7¼, or 4 in 29. It appears also that the proportion of females undergoing the operation, is to that of males as 58 to 1000, or about 1 to 17; and that the mortality from the operation in children is only about 1 in 18; while in adults, it is 4 in 19, that is nearly quadruple."—p. 25.

He has given, also, a tabular view of the comparative prevalence of the disorder, at different periods, in the same hospital, which we do not extract, as the variations of the number of operations of lithotomy in any hospital depend on very different causes, altogether independent of the prevalence of the disease; and, notwithstanding the average proportion of operations of lithotomy in that hospital, corresponding to the total number of patients admitted, is as one in thirty-eight; a proportion greatly exceeding that in any other public institution, to the records of which, Dr. Marcet had access; yet, we think, there are scarcely grounds for concluding, that this circumstance can be "traced to any peculiarities in the habits or situation of that district."

In St. Thomas's Hospital, in Cheselden's time, the proportion which the operations of lithotomy held to the total of patients admitted, appears to have been nearly as one for every 268 patients; while in the last ten years, according to a statement furnished by Mr. Travers, it has not exceeded one for every 528 patients: but this difference perhaps may be accounted for from the extraordinary reputation of Cheselden in this operation. In St. Bartholomew's Hospital for the last five years, as Mr. Lawrence has endeavoured to ascertain, the annual average has been about "eleven cases of lithotomy, or one case in each [every] 340 patients;" and in Guy's, although the statement is merely guessed at, the average may, perhaps, "be considered as one in about 300 patients." From these data, our author conceives he is authorized in concluding that lithotomy is less frequent in London than formerly; a fact that we think depends less on any change in the diet and habits of the people, than in "the circumstance of calculous patients not resorting so exclusively, as was formerly the case, to the great London hospitals for the operation." This, in our opinion, arises in some degree from the more general establishment of county hospitals; but also in part from the superior attainments of young surgeons of the present day, enabling them more readily to operate in private..

In the Edinburgh Infirmary, the average of the operations for the last six years has not exceeded two in the year, although the annual number of patients is about 2000; in Paris, in *l'Hopital de la Charité*, the annual average is from ten to twelve, the admissions being from 2500 to 2600; in *l'Hopital des Enfans Maladies*, where 3000 children under the age of fifteen are annually admitted, the average is about six. In an hospital at *Clermont Ferand* in France, in which the annual admissions are 2000, the average of stone cases for the last twelve years has been six; and at Rouen, out of 7300 patients "during the last eighteen months, twelve have been operated on." From Vienna no returns were obtained; and very few cases of the operation occur there, owing to a prejudice existing against it; at Geneva, in a population of 30,000 souls, lithotomy has been performed thirteen times only in the last twenty years, and seven of the thirteen patients were not strictly Genevese; while at Lyons, which is eighty miles only from Geneva, "the disease is stated to be rather frequent."

The Norwich table might be supposed to confirm the observation, that a considerable number of the cases of calculi occur in children; but our author justly remarks, that "this obtains only among the poor classes;" and even not among these, if they be well fed. In the Foundling Hospital, for instance, into which 1151 children have been admitted within the last twenty-seven years, three cases only have occurred; and in the Military Asylum at Chelsea, 6000 children have furnished one case only of stone.

From these inquiries, Dr. Marcet is led to conclude, that "the tendency to form urinary calculi must arise from some general causes" independent of diet; and keeping in view the fact, that the disease is nearly unknown in tropical climates; and that great changes in the urine are effected by different states of the surface, he suggests it as a subject for inquiry, "whether there may not be some essential connexion between the state of the cutaneous functions, and the greater or less prevalence of this class of disorders."

Having concluded these preliminary remarks, our author passes on to the more immediate object of his task, and treats, in the third chapter, of the different species of urinary calculi, of their external characters, and of their chemical nature and classification. He objects to that classification which has led to the expressions *renal*, *cystic*, or *urethral* calculi, "with a view to indicate that they had their origin in the kidneys, the bladder, or the urethra;" and advances satisfactory proofs that the varieties of calculi which the urine deposits are all "liable to appear in the different parts of the urinary passages."

Those found in the *kidney* differ from each other, not only in shape, size, and external appearance, but also in their chemical nature. When not in one mass assuming the shape of the interior of the organ, the more general figure is round; but in some instances they are of a polygonal form, commonly having three flattened sides.

"These," adds he, "are sometimes of a fawn or yellowish brown colour, sometimes grayish, their surface in either case being often remarkably smooth, as if coated with a fine varnish, or even in some instances having a degree of metallic lustre not unlike burnished copper."—p. 49.

The calculi found in the *bladder* equally "vary" in size, form, and other external qualities. They are spheroidal, egg-shaped, almond-shaped, polygonal with flattened surfaces, and even sometimes almost cubic: "they vary from the size of a few particles of sand agglutinated together, to that of a mass almost filling the bladder." Their colour, which differs, often indicates their chemical nature: thus, when of a fawn or mahogany colour, "they almost always consist of lithic acid;" when white or greyish white, "they always consist of earthy phosphats; when dark brown or black, hard in their texture and tuberculated, they consist of oxalat of lime; and when their surface is uneven, crystalline, and "studded with shining transparent particles," they may be regarded as consisting chiefly of the ammoniaco-magnesian phosphat. In specific gravity "calculi vary between 1200 and 1900, water being 1000;" and our author observes that, "when sawed through, they exhale a faint animal smell." As it is probable that all natural calculi originate in the kidney, the nucleus is usually lithic acid; but any foreign matters introduced into the bladder, a circumstance which experience has proved may happen, almost invariably become the nuclei of calculi. But calculi are not always homogeneous; and Dr. Marcet correctly remarks, that their alternate layers often present specimens of each of the various species of calculus.

The calculi found in the *prostate gland* seldom exceed the size of a millet seed, are generally more or less rounded, and of a yellowish brown colour. These external qualities of calculi are exemplified in the plates.

Before entering upon the chemical examination of calculi, our author gives a brief history of the discovery of their composition. It is unnecessary for us to follow him in this part of his tract; and we have only to state that Scheele was the first who developed the chemical nature of urinary calculi; and that to the labours of Dr. Wollaston we are most indebted for the knowledge we now possess on that subject. Fourcroy is accused of having assumed Wollaston's discoveries as his own, a charge which undoubtedly requires to be cleared up; and which we trust will arrest the attention of M. Vauquelin, his associate in all his researches into the nature of calculi.

"It is extremely painful," says our author, "to be compelled by justice to notice such an apparent want of fairness and candour in a philosopher, who devoted a long and brilliant career to the advancement of science. But unless this circumstance should hereafter be satisfactorily explained, it will be impossible for posterity to overlook such an unjustifiable omission, particularly in a man whose great fame and peculiar merits as a chemical philosopher, seemed to preclude all temptation to plagiarism."

Our author enumerates the following as the component parts of calculi: "lithic or uric acid; phosphat of lime; ammoniaco-magnesian phosphat; oxalat of lime and cystic oxyd;" and as one or other of these substances generally predominates in every calculus, although any of them rarely exists singly, he thus arranges calculi according to their components:

"1. The *Lithic* Calculus.—2. The *Bone-earth* Calculus, principally consisting of phosphat of lime.—3. The *Ammoniaco-Magnesian Phosphat*, or calculus in which this triple salt obviously prevails.—4. The *Fusible* Calculus, consisting of a mixture of the two former.—5. The *Mulberry* Calculus, or oxalat of lime.—6. The *Cystic* Calculus, consisting of the substance called by Dr. Wollaston cystic oxyd.—7. The *Alternating* Calculus, or concretion composed of two or more different species, arranged in alternate layers.—8. The *Compound* Calculus, the ingredients of which are so intimately mixed as not to be separable without chemical analysis.—9. Calculus from the *Prostate* Gland."

As the chemical examination of each of these species is extremely important, we trust a little prolixity in our analysis will be readily excused.

1. The *Lithic Calculus*, which is the most prevalent, and the external characters of which we have already noticed, is easily dissolved in the pure fixed alkalies, "from which it may be precipitated in the form of a white powder, by all the other acids." Of the mineral acids, the nitric only dissolves the lithic calculus, the residue, when evaporated to dryness, assuming a remarkable bright pink colour. It is sparingly soluble in lime water: blackens before the blow-pipe, emitting a peculiar smell, "and gradually evaporates, leaving only a small quantity of white ash, which is commonly alkaline." Destructive distillation resolves it into a new and peculiar acid and a variety of other products, which do not essentially illustrate its composition.

2. Dr. Wollaston first ascertained that some calculi consist entirely of *phosphat of lime*, "and described their external characters in the Philosophical Transactions for 1797, which our author has transcribed. When pulverised, this species of calculus dissolves readily in the muriatic or nitric acids. Before the blow-pipe it first blackens, from the charring of its animal matter, then becomes white again, and may be ultimately fused, if the heat be intensely urged; thus differing from the phosphat of bones, which, as it contains a greater proportion of lime, is not fusible by ordinary means. Dr. Marcet regards this species of calculus as comparatively rare.

3. The *Ammoniaco-Magnesian Phosphat* was first discovered

as a constituent of urinary calculi by Dr. Wollaston. It never forms the entire substance of a calculus; but it is often seen "in the form of minute sparkling crystals diffused over the surface or between the interstices of other calculous laminæ," which are soluble "in most, if not all, the acids." During the action of the blow-pipe this phosphat emits an ammoniacal odour, and is imperfectly fused if the heat be strongly urged, "being reduced to the state of phosphat of magnesia." Ammonia is also disengaged during the solution of this triple calculus in the pure alkalies, "the alkali combining with a portion of the phosphoric acid."

4. The *Fusible Calculus*, which is of very common occurrence, was first distinguished by Mr. Tenant, and its chemical characters developed by Dr. Wollaston. In its external appearance it resembles chalk, being white and friable; and often attains a large size, taking a pyriform shape, with a kind of peduncle at the broader end, corresponding to the neck of the bladder; which is well illustrated by a good engraved figure. It is a mixture of the triple phosphat and phosphat of lime; and easily fuses before the blow-pipe. It is this calculus which usually forms around foreign bodies introduced into the bladder; and the concretions that form "when urine is detained in any of the passages, are of the same nature*." We extract the account of the method of shewing its composition.

> "If it be pulverised, and acetic acid poured upon it, the triple crystals will be readily dissolved, while the phosphat of lime will scarcely be acted upon; after which the muriatic acid will readily dissolve the latter phosphat, leaving a small residue consisting of lithic acid, a portion of which is always found mixed with fusible calculus. This portion is generally minute; but sometimes it is more considerable, and in some instances it is so much so as to give to the calculus an equivocal character.
>
> "From the acetic solution the triple crystals may be recovered, with their characteristic appearance, by the addition of carbonat of ammonia; and from the muriatic solution, the lime may be precipitated by oxalat of ammonia. As to the phosphoric acid, its presence may easily be rendered obvious, after the separation of the lime, by adding to the remaining liquor a solution of muriat of magnesia, with some carbonat of ammonia, by which means an ammoniaco-magnesian phosphat is immediately precipitated in its usual form†. The neutral carbonat is better adapted to produce this effect than the sub-carbonat."

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* For an analysis of a concretion of this kind, which formed in the vagina of a child, by Mr. A. T. Thomson, vide *Repository*, vol. vii. p. 111.

"† The presence of phosphoric acid may also be shown by reducing it to the concrete state, by the blow-pipe, on a slip of la-

5. The *Mulberry Calculus* was first discovered to consist of oxalat of lime, united with some lithic acid and phosphat of lime, by Dr. Wollaston. When finely pulverised, it is soluble in the muriatic and nitric acids, aided by heat: and "when it is digested with alkaline carbonats, the alkali combines with the oxalic acid, and the carbonic acid with the lime." On exposure of this calculus to a red heat, the oxalic acid is volatilized, and the residue is quick lime. But oxalat of lime is also found in some smooth calculi; and Dr. Marcet has met with three varieties of small mulberry calculi, having a distinct crystalline texture, which have been hitherto undescribed.

"They were all of a pale brown colour, and the crystals of which their surface was composed, though at first sight having the appearance of mere square plates, proved, upon closer examination, to be very flat octahedrons."

6. The *Cystic Oxyd* was also discovered by Dr. Wollaston. In external appearance it resembles the triple calculus, but is more compact, is a confusedly crystallized mass, yellowish, semitransparent and glistening; and has been found remarkably free from other ingredients. Before the blow-pipe it emits "a peculiarly fœtid smell; and is so easily acted upon by reagents that it is best known by its insolubility" in water, alcohol, acetic, tartaric, and uric acids," and neutral carbonat of ammonia. Like other oxyds, it unites with both acids and alkalies, for which reason, and as the specimens Dr. Wollaston examined were taken from the bladder, that celebrated chemist named it *Cystic oxyd;* but our author details two cases in which it was unquestionably of renal origin. He, however, does not propose to change the name.

7. *Compound Calculi in distinct layers* "are composed of different species of calculous depositions disposed in layers around a common nucleus." The plates exhibit various specimens of these, and in particular one, "in which lithic acid may be distinctly seen in the centre, pure phosphat of lime next to this, then oxalat of lime, and ultimately the fusible crust enveloping the whole concretion."

8. *Compound Calculi, with their ingredients intimately mixed.* Dr. Marcet refers to this head all calculi which have no characteristic feature indicative of their belonging to any of the other classes.

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minated platina; the acid, when thus urged, communicating to the flame a peculiar green tinge. By processes of this kind, the nature of the component parts of calculi is easily ascertained; but when an exact knowledge of proportions is desired, more elaborate operations are required, some of which are pointed out in Dr. Wollaston's papers in the Philosophical Transactions for 1797 and 1810."

9. Dr. Wollaston has ascertained that all the *Calculi found in the prostate gland* consist of neutral phosphat of lime.

With regard to *urat of ammonia*, arranged by Fourcroy as a species of urinary calculus, our author, in common with Dr. Wollaston and Mr. Brande, has looked for it in vain; although, from analogy, he does not altogether deny its occasional existence in human urinary calculi, having observed it in the urine of the *boa-constrictor*. In the fourth chapter, Dr. Marcet describes two nondescript calculi; one of which he has named *xanthic oxyd*, from its property of forming a lemon-yellow compound when acted upon by nitric acid; and the other, *fibrinous calculus*, on account of its chemical properties corresponding closely with those of fibrine. But as these are as yet solitary instances, he candidly admits, that unless other similar calculi should occur to future inquiries, they "would hardly deserve any farther notice." It is certainly not by the collection of singular cases, and the description of solitary morbid productions, that medical science is to be advanced; but by disseminating an accurate knowledge of those results of disease which are every day occurring.

In the fifth chapter an attempt is made to give some idea of "the comparative frequency of the different species of urinary calculi," by a tabular display of eighteen specimens of the Norwich collection, which our author chemically examined, and that of Guy's Hospital, amounting to eighty-seven specimens. In the first, the lithic calculi constitute one third of the whole; the fusible calculi are next in regard to frequency; the numbers of the fusible and the mulberry are two thirds only of the number of the lithic; and the compound concretions, "one third only of the mulberry species;" yet by far the greatest proportion of deaths has been amongst patients labouring under calculi of the compound or mixed kind. In Guy's collection there is a much smaller proportion of lithic calculi; while "the fusible, the mulberry, and the mixed calculi, bear to each other nearly the same ratio as in the former:" a proof, in the opinion of our author, that the calcareous nature of the Eastern counties of England has no share in the greater prevalence of calculous complaints in these counties, the calcareous calculus being comparatively more frequent in London than in these districts.

The sixth chapter, which is intended chiefly for the use of those who are not very "conversant with chemical manipulations," treats "of the analysis of urinary calculi, with a view to their easy discrimination." Our author first points out the instruments requisite for this purpose, illustrating his description by a sketch; and then details the easiest modes of analysing those calculi which are most prevalent. A *lithic* calculus may be generally known by its external characters; but when these are not distinct, a very small fragment of the calculus detached by the point of a knife must be exposed, by means of a small pair of platina tongs or forceps, to the action of the blow-pipe.

"If lithic acid be its principal ingredient, the fragment blackens, emits a smoke having a strong and characteristic odour, and is gradually consumed, leaving a minute quantity of white ash, which is usually alkaline."

The lithic calculus is also soluble in caustic alkali; and, to ascertain this fact, it is only requisite to scrape off a little of the calculus into a watch glass, pouring on it a few drops of the alkali, and to hold the glass over the flame of a lamp until the solution be effected; which, however, will generally not be complete, owing to other substances being contained in the calculus. By adding any acid to the solution, a white precipitate is immediately formed, if lithic acid be present. Or to a particle of the suspected calculus, a drop of nitric acid may be added, and heat applied; if lithic acid be present, it will be dissolved; "and if the solution be evaporated to dryness, the residue assumes a beautiful pink or carmine colour," which is imparted to water, in which this residue is soluble.

A *phosphat of lime* calculus, independently of external characters, may be ascertained either by exposing a particle of it to the action of the blow-pipe, before which it first blackens and then becomes perfectly white, still retaining its form; or it may be pulverized and dissolved in dilute muriatic acid, from which, "if the excess of acid be not very considerable, the lime may be precipitated in the form of an insoluble compound by oxalat of ammonia." The *ammoniaco-magnesian phosphat* may be suspected to predominate when a calculus is extremely white and sparkling; but this is rendered certain by the evolution of a pungent ammoniacal odour, on heating a portion of the calculus, or pouring on it a few drops of caustic potash. The property from which it has derived its name enables us readily to distinguish the *fusible calculus*. When melted, it runs into a globule, semi-transparent, and of a pearly appearance. We have already noticed the method of analysing this calculus by chemical means. The *mulberry calculus*, although generally distinguishable by its external aspect, yet, is not always so; but, before the blow-pipe it swells out into a white efflorescence, which is caustic lime, and changes the colour of turmeric paper to red. The *cystic oxyd*, besides being recognized by its unstratified structure, waxy appearance, and peculiar odour when heated, is distinguished also by its ready solubility "both in acids and alkalies." The *compound calculus* requires more complex and scientific methods of analysis, unless it be composed of distinct layers, which can be separately examined.

Having finished the description of the means of ascertaining the different species of calculi, our author, before entering upon the treatment of calculous disorders, makes a digression from his main subject to notice "some other kinds of animal concretions not belonging to the urinary passages, both in man and other animals." The concretions he notices, are those found in the various viscera, in the salivary glands, and in the intestinal canal of quadrupeds as well as that of man. He mentions having seen a calculus found in the rectum of an infant with an imperforated anus, which closely resembled the fusible urinary calculus: and some of a caseous nature, that proceeded from "caseous matter actually formed in the intestines, from milk taken as nourishment by the patient, and coagulated by the gastric juices." Some also of a very singular nature are mentioned, in which the nucleus were grains of oats. The concretions found in the intestines of the horse and some other large quadrupeds, are composed almost entirely of the *ammoniaco-magnesian phosphat.* A large one found in a rhinoceros, and given to our author by Dr. Wollaston, consists of the triple phosphat "disposed in layers round a hazle nut, alternately, with thin laminæ of phosphat of lime." This latter substance, Dr. Marcet has remarked, usually forms part of the composition of the balls of hair sometimes found in the intestines of the cow and ox. The urinary calculi of quadrupeds are composed of the two phosphats and the carbonat of lime, lithic acid never having been detected in them; although it has been found in the droppings of birds, the urine of the camel, and the excrements of the boa-constrictor. *Gouty concretions* are now generally known to be either, to use Dr. Marcet's language, lithats or super-lithats of sodæ; and *biliary calculi* to consist chiefly of adipocire; but, although it is not noticed by our author, yet we may mention, that carbonat of lime also has been found in biliary concretions, incrusting a nucleus of adipocire, and forming that variety which has been termed *glauco-crustaceous* by Mr. A. T. Thomson, who first observed it*.

In proceeding to treat "of the chemical and physiological principles to be attended to in the treatment of calculous disorders," the subject of the concluding chapter of the volume, Dr. Marcet first examines briefly the "probable limits of the powers of medicine" in these affections. He contends, that although little or nothing can be expected from medicine in destroying already-formed calculi, too large to be discharged by the natural passages, yet in some instances, the sharp edges of small calculi or gravel may be so blunted by the internal use of chemical solvents, as to allow them to be passed "with less difficulty or inconvenience;" and that, at all events, the prevalence of the particular diathesis may be altered. Let us examine his exposition of the facts on which these opinions are founded.

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* Vide *Medical Repository,* vol. iv. p. 467.

In taking a summary view of the practice in calculous disorders, Dr. Marcet properly regards the substances to be acted upon as unorganized bodies, although they are contained in living parts; and considers the chemical treatment to rest upon the following general principles:

> "Whenever the lithic* secretion predominates, the alkalies are the appropriate remedies; and the acids, particularly the muriatic, are the agents to be resorted to, when the calcareous or magnesian salts prevail in the deposit."—p. 148.

But the question, can acids or alkalies reach the urinary passages? immediately suggests itself. This, our author thinks, experience enables us to answer satisfactorily in the affirmative, as far as concerns the alkalies; but with respect to the acids, the reply is more equivocal; and he is willing to admit, that although both may pass through the circulation unchanged, yet that the quantity is too inconsiderable to make much, if any, impression upon pre-existing calculi. Still, however, the prevailing diathesis may be checked; for even supposing that none can reach the urinary organs, these remedies may produce beneficial changes "during the first stages of assimilation;" for example, by neutralizing excess of acid, or checking an alkalescent tendency, "or otherwise disturbing those affinities, which, in the subsequent processes of assimilation and secretion, give rise to calculous affections." When an acid is indicated, "from five to twenty-five drops of the strong muriatic acid, taken two or three times a day, sufficiently diluted with water;" or if an alkali be the remedy required, soda water, or from five to twenty or thirty grains of carbonat of soda," taken two or three times, are recommended by our author. In stating the dose of the soda, he uses the following words: "whether in the state of subcarbonate or in that of neutral crystallized carbonat;" but we would suggest, that if the alkali be the useful ingredient, he must know, as a chemist, the difference in the quantity contained in these two compounds; and hence the necessity of prescribing a larger dose, when the carbonat is employed. In our opinion, the dose is too small, in either case, to prove beneficial. Dr. Marcet seems aware, that it may be questioned whether the carbonats can act by their chemical agency, *quo alkali*, in the urine in calculous disorders? He states the affirmative as his opinion, and conceives the carbonic acid itself may be beneficial, by producing "such stimulating effects on the digestive organs, as to counteract, independently of any direct chemical agency, the particular action which gives rise to urinary concretions." It is in this way only, in our opinion, that the neutral carbonats, or soda water, can be useful; for if the alkali combine with the acid in the stomach, which is chiefly the acetic, the acetate formed will more probably pass off by the bowels than be again decomposed, and give the urine alkaline properties. But the alkali, it is said, may be detected in the urine; that, however, we reply, is also the case when magnesia is taken, which is generally admitted to act merely by removing acidity from the digestive organs. Indeed it seems evident to us, that if alkalies can produce any effect in calculous affections, as chemical agents, they must be given in the caustic form, and more largely than the majority of stomachs can bear; but it is much more probable that the benefit which is found to follow from using them, results partly from their neutralizing the superabundant acid in the stomach, and partly from allaying irritation in the coats of the bladder and urinary passages, (an effect which our author admits they produce,) when they pass unchanged through the kidneys.

Some useful cautions are given regarding the use of magnesia, which our author has seen prove extremely huntful in a case in which the gravel deposited by the urine proved, "on examination, to be of the magnesian or fusible kind." We were rather surprised, under this head, to meet with the following sentence from the pen of Dr. Marcet—

> "the powers of which (magnesia) probably depend partly upon its aperient effect, and partly upon the absorption of redundant acid."

Now we believe it is generally admitted, that magnesia is not in itself aperient, and acts only as such when it meets with acid in the primæ viæ.

One of the greatest difficulties attending the treatment of calculous disorders, arises, undoubtedly, as our author remarks, from the alternation of calculous deposits; and consequently as great attention is requisite to the state of the urine and its sediment, the profession is indebted to him for making public the following remarks of Dr. Prout on this subject:

> "When the urine contains urea in abundance, the phosphats generally prevail; while if the urine abounds in colouring and extractive matter, we may conclude that the lithic acid is the prevailing secretion. According to Dr. Prout's observation likewise, although urea and lithic acid do not co-exist in urine in large quantities, when the phosphats are deficient; yet sometimes the three substances, urea, lithic acid, and the phosphats, are found to exist together in abundance."—p. 169.

Dr. Marcet thinks the formation of the mulberry calculus may be checked by the use of the mineral acids, "which have the power of dissolving the oxalat of lime in its nascent state;" but there is an insurmountable difficulty respecting this calculus, as well as the cystic oxyd, the xanthic and the fibrinous calculi, of which he is fully aware; viz. there being "no vestiges of them discoverable in the urine, it is not easy to perceive to what kind of alteration in that secretion it is most desirable to direct the treatment, with a view to correct the calculous diathesis in question." The beneficial effects of purgatives and turpentine combined with opium in expelling calculi, are noticed; but no explanation of the latter hazarded. Some brief observations are offered on the subject of diet; and our author is of opinion, that as in some animals more lithic acid is secreted when they are fed exclusively upon animal food, it may be inferred, "that it might be detrimental to restrain patients affected with this kind of calculous, from taking a due proportion of vegetable nourishment." We would remark, however, that as dyspepsia is a very probable cause of the continuance of the calculous diathesis, if it cannot be said to originate in that morbid state of the digestive functions, whatever can relieve the dyspeptic symptoms, must necessarily tend to diminish the disposition to the formation of calculi; and we know no means more likely to effect this than an animal diet and complete restraint from vegetable nutriment. With regard to the direct application of solvents to calculi in the bladder, by injecting into that viscus weak solutions of the solvents, our author's opinion is, that the subject has not "yet been sufficiently investigated." He thinks that benefit may result from the practice when sufficient evidence can be obtained as to the nature of the calculus; but much caution is required on the part of the practitioner, and great patience and perseverance on that of the invalid. In one case in which he employed the muriatic acid, the quantity of the acid, which was at first two drops only in four ounces of water, was gradually increased to twenty-three drops, "without producing any inconvenience, though the solution was often retained in the bladder as long as an hour." The injection, however, besides the acid, contained in solution half a drachm of opium. He properly advises, that the catheter be left in the urethra; and that always before using the injection, the bladder should be emptied as completely as possible.

Upon the whole, we have no doubt that the profession will regard this volume as an important addition to those works it already possesses, the value of which depends on their practical utility; as it brings the means of investigating a subject which has hitherto been regarded as requiring a minute knowledge of chemistry, and extreme nicity of manipulation, within the reach of every practitioner; and consequently tending to improve the treatment of calculous complaints. In another point of view, it demonstrates the essential importance of Chemical Science to the medical philosopher; and is in itself an admirable model of the great advantages of simplicity in scientific inquiries.

* * *

III.

Medico-Chirurgical Transactions, Volume VIII. Part I. 8vo. pp. 314. London, 1817. Longman and Co.

(Continued from p. 423.)

The first of the Surgical Papers, is "*A Report of the State of the Wounded on Board His Majesty's Ship, Leander, in the Action before Algiers, extracted from a Letter from D.* Quarrier, *M.D.*, Surgeon to the Leander." The only circumstance of importance in this paper, is the proof which it affords of the advantage of immediate amputation without waiting for re-action. The horrors of the scene, which were awful, are well and feelingly described; yet, amidst these, Dr. Quarrier could not perceive any of that "dreadful perturbation and constitutional shock—that peculiar derangement of the sensorium" which has been so frequently described by authors, as constantly attending wounds inflicted by large cannon shot. Dr. Quarrier justly blames the indiscriminate use of the tourniquet in gun-shot wounds; which, he says, is seldom required, "excepting in operating;" and we would add, that even in operating it is now very generally laid aside; few cases occurring in which, if an assistant can be depended upon, its aid is essentially requisite.

Several interesting "*Cases of Hernia Cerebri, with Observations*," by Edward Stanley, Esq. form the subject of the second of this class of papers. The principal object in this paper, is to determine the cause of those protrusions of the brain which have received the denomination of hernia cerebri. Mr. Stanley conceives, that in every case there is either distension of the vessels or serous effusion: and the question necessarily suggests itself, whether the surgeon ought immediately to remove the protrusion, "or whether he will await the event of the natural processes which it is likely will, at some period, be commenced for getting rid of the protruded brain, and restoration of the injured parts?" Mr. Stanley confesses himself incapable of determining which is the best plan of treatment. Another question, also, naturally presents itself: "whether, in the individuals who have recovered after the loss of a part of the brain, there is any regeneration of the cerebral substance?" The only facts known to our author, illustrative of this question, are deduced from the experiments of Strueman, from which it appears, that "a new substance, of a yellow colour, thinner and softer than the genuine brain," arises from the exposed surface, "and at the same time there remains an accumulation of fluid in the ventricles." The cases communicated in this paper, are perspicuously described; and a satisfactory plate is given to illustrate the nature of the protrusion in one of them.

The third of the Surgical Papers is "*The History of a Case of Ill-conditioned Ulcer of the Tongue, successfully treated,*" by CHARLES LANE, ESQ. The arsenic in this case was administered internally, and also applied to the ulcer of the tongue; but the most remarkable circumstance in the communication, is the large dose of the solution, ten minims, equal to twelve ordinary drops, which was at first prescribed; and the extent it was carried to, viz. to seventeen minims, repeated every eight hours.

The fourth case is the "*History of a Case of Lithotomy, with a few Remarks on the best Mode of Making the Incision in the Lateral Operation,*" by SAMUEL COOPER, ESQ. After describing a case on which the author operated with a common dissecting scalpel, without a staff or director, he enters into an examination of the operation as it is usually performed. He recommends an ample division of the integuments, and points out the advantages "of making the incision through the whole of the parts cut in lithotomy, in a straight, regular, direct manner, from the surface of the skin in the perineum, to the termination of the wound in the urethra and bladder." This affords the greatest space for the extraction of the stone, and averts the evils to be dreaded from the repeated introduction of the forceps; it insures the safety of the arteria pudica profunda; prevents the rectum from being wounded; and places the seminal duct also altogether out of danger. The unparalelled success of Frere Jacques, Cheselden, Côsme, and some others, he ascribes altogether to their constant plan of making "a free incision into the bladder;" and criticises severely the advice which Scarpa has lately given in his Memoir on the Cutting Gorget of Hawkins. He makes some rational objections to the use of the gorget; and, in every instance, prefers the common scalpel or the beaked knife.

A Case of a Fatal Hæmorrhage from the Extraction of a Tooth, by RICHARD BLAGDEN, ESQ. constitutes the fifth surgical communication. There was a peculiar predisposition to hæmorrhage in the patient, who had nearly lost his life, when a boy, from a similar operation to that described in this paper. The case contains no useful practical information, and is therefore only an unprofitable addition to the numerous cases of a similar description already on record. The carotid was tied, without producing the expected benefit.

The sixth paper is the "*Account of a Case where a severe Nervous Affection came on after a Punctured Wound of the Finger; and in which Amputation was successfully performed,*" by JAMES WARDROP, ESQ. In his remarks on this case, in which the relief after the amputation was instantaneous and permanent, the author endeavours to demonstrate the little reliance which is to be placed on a simple division of a nerve, when it is wounded, and the propriety of amputating the limb in all cases of partially divided nerves, when it is "followed by an affection of the nervous system in general."

The paper following the above, is "*An Account of some remarkable Symptoms which were connected with a Painful Affection of the Extremity of the Left Thumb, together with the Mode of Treatment,*" by John Pearson, Esq., F.R.S., &c. This extraordinary morbid affection of the left thumb, which commenced with acute pain, resembling that of a whitlow, and local inflammation, gradually extended its influence, not only to the arm of the originally affected side, but to the other arm; and ultimately to the lower extremities; and rendered the patient, who was a woman of quality, incapable of using exercise for more than a few minutes at any one time. The patient, who was in Scotland at this period, tried a great variety of means, and particularly both the shower bath and immersion in the sea, without any permanent benefit. She was brought to London, and became Mr. Pearson's patient. On considering the case, and the general state of health of the lady, Mr Pearson conceived the opinion, that the symptoms "were immediately connected with a morbid condition of the nerves distributed to the extremity of the thumb." The mode of cure adopted, and which proved successful, was the producing an artificial exanthematose affection by means of the following liniment:

℞ Olei Olivæ, ℥iiss.
—— Terebinthinæ, ℥iss.
Acidi Sulphurici, ʒi.—M.

This was rubbed on the left arm; but half a drachm more of the acid was added before it fairly produced its effect, which it did after being used for twelve days.

> "The whole arm, from the shoulder to the hand, was red, heated, tumid, and very painful. These symptoms became gradually more intense, and were diffused more extensively, increasing progressively during five days. Within this period, a number of small vesicles containing a pellucid fluid appeared on various parts of the arm; the face became swollen as in the acute erysipelas, and vesicles were distributed on different parts of its surface; the cellular membrane of the eyelids was likewise so much distended as to obstruct vision completely. The whole surface of the body, indeed, partook of these morbid appearances; but the vesicles were scattered very sparingly over the trunk and lower extremities."—p. 260.

On the fifth day after the cutaneous disease appeared, the thumb was agitated by a spontaneous motion, unattended with pain, and the morbid sensibility completely abated. The other symptoms also successively yielded; and, in little more than two months, "all appearance of the disease had vanished."

The paper concludes with some excellent physiological and pathological remarks connected with the subject.

The last of the Surgical Communications is a detail of some *Cases of Fungus Hæmatodes, with Observations;* by George Langstaff, Esq.; and an Appendix, containing *Two Cases of Analogous Affections*, by William Lawrence, Esq. F.R.S. This is, in every respect, a valuable communication; but it does not admit of analysis, in the brief manner to which we have confined ourselves, in noticing the various articles contained in this part of these Transactions.

The papers on the Practice of Medicine are two only in number. The first, which is the fifth of the volume, is intitled *An Inquiry into the Origin and Nature of the Yellow Fever, as it has lately appeared in the West Indies, with Official Documents relating to the subject;* by William Ferguson, M.D.

If any doubts remain of the non-contagious character of yellow fever, the facts brought forward in this paper are, in our opinion, sufficient to dispel them in unprejudiced minds. The instance of the Regalia transport, which has been so much insisted upon as affording proofs of the contagious nature of the disease, by the contagionists, is fully discussed by Dr. Ferguson, and demonstrated, in a manner perfectly satisfactory to our minds, to have originated from some "green wood laid in at Sierra Leone, operating along with the foul ballast, to furnish, when impregnated with the gases arising from putrid sea-water, morbific matters, similar to those that, on land, arise from marshes when exposed to the influence of the higher degrees of atmospherical heat."

In pursuing the subject generally, Dr. Ferguson gives it as his decided opinion, that "the pestiferous quality" of marsh miasmata "does not necessarily depend either upon aqueous or vegetable putrefaction, however frequently it may be found combined with both." It is generally destroyed by the presence of much water, and never proceeds from the bodies of pools or lakes, but always from their margins, where there is a paucity of water short of actual dryness.

> "I think we may be able to explain," says Dr. Ferguson, "from the various compositions of soil, its elevation, aspect, and texture, as affording capacity to retain moisture, why every dry one can be brought during an uncommonly wet season, through the influence of tropical heat, into the state of a marsh that gives out noxious vapours, and a marshy one approaching to dryness through previous draught may be made perfectly healthy from the same abundant rains."—p. 130.

After explaining the character of several of the West India islands in regard to these points, and the effects of their various climates on Europeans, our author offers the following, as points altogether unaffected by the conjectures connected, otherwise, with the investigation of yellow fever.

"1st. That the yellow fever never begins, and cannot continue to exist in a temperature of heat lower than the ordinary temperature of the tropics, on the level of the sea; which temperature is not the ordinary one of agues, however moist the soil may be, but of remittents and the higher degrees of ardent fever.

"2nd. That even within the tropics, it is confined in all the islands to the sea-coast; and can only spread into the interior of continents where the country is flat and low, possessing little elevation above that level, and retaining the above temperature.

"3d. That it uniformly is more apt to arise and to spread where miasmata, or what would constitute the elements of intermittent or remittent fevers in colder countries, openly abound.

"4th. That a comparatively high degree of bodily vigour and rigidity of fibre, such as the young sanguineous newly arrived European ordinarily brings with him to the West Indies, is for the most part essential to the developement of the disease.

"5th. That Europeans suffer in point of priority and severity of attack, precisely in the degree that they possess the foresaid vigour of constitution, and that when relaxed by long residence or other causes, they become like the Creoles and people of colour, in a great degree exempt from its influence."—p. 138.

The whole paper is written in a masterly manner, and the proofs are as conclusive as the nature of the subject can admit.

The other medical communication is from the pen of Dr. H. Scott, "*On the Internal and External Use of the Nitro-Muriatic Acid in the Cure of Diseases;*" but as this is a subject still under investigation, and as we shall have frequent opportunities both of examining the value of the practice and the theoretical opinions of Dr. Scott, we forbear at present from entering upon its details.

The last paper of the volume which we have to notice, and which does not strictly come under any of the divisions of our arrangement, contains an account of a "*Rupture of the Stomach and escape of its contents into the Abdomen,*" by John Crampton, M.D. &c. with *additional Observations* by Benjamin Travers, Esq. F.R.S.

No prognosis could be formed from the symptoms, and hence the treatment consisted of means adapted to allay irritation and pain; but on opening the stomach after death, the cause of the sufferings became evident. "The perforation of the stomach was perfectly circular, about the size of a pea, and appeared to be the result of an ulcer on the mucous surface, which had gradually penetrated the other coats. This ulcer was hollow and circular, nearly the size of a shilling, and had the appearance as if it had been made with caustic, with the orifice in its centre." Such cases are curious, but not very useful, as they set Art wholly at defiance.

In concluding the brief notices we have taken of the contents of this part of these Transactions, we only regret we can remark, that, with a few exceptions, the communications are not of equal interest with those in the preceding volumes.

PART III.

SELECTIONS.

Dr. Ainslie on *Sphacelous and Phagedenic Ulcers.*

(Concluded from page 346.)

I have since that period experienced the same happy effects from the use of the balsam of Peru in a case of sphacelous bubo, as noticed in my Journal for May last, and have now under my care two more cases of sphacelous ulcer, in which I witnessed the same wonderful, I may say saving powers, of this long neglected drug. The one is in a recruit lately come from England, who having been blistered* on the abdomen during a bowel complaint, had a dreadful sphacelous affection thereby induced; and in all probability we should have seen the intestines laid bare, in a few days, but for the balsam of Peru, which put an immediate stop to the disease.

The other case is in a soldier who has been *ten years* in India, and whose back from a slight punishment put on a sphacelous appearance, and who, I have no doubt, from the rapidity of the first advances of the malady, would soon have been carried off, had he not been rescued by the medicine in question.

When applied to scrofulous sores, this balsam I have found to have nearly the same healing quality; but scrofula being a disease depending upon a particular state of the general habit, we are not entitled to look for a radical cure from external applications. It also, I have discovered, heals primary syphilitic ulcers: but in such cases I should give a preference to the immediate use of some powerful escharotic, to prevent as soon as possible the absorption of the venereal virus. But, however excellent may be the qualities of this medicine in perhaps every case of foul ulcer, its great efficacy, as far as I have been able to judge, is most conspicuous in what are called sphacelous and phagedenic affections; which are well known to be ever of a most dangerous nature, and have been but too frequently found to set our best exertions at defiance.

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* Dr. Blane also takes notice of the malignant ulcer being brought on by this cause, as happened in the Ganges, 74, in the West Indies in 1796.—Blane's Diseases of Seamen, pages 506, 507, 3rd Edition.

To proceed then, I shall simply state that phagedenic ulcer, however it may originate, is very frequent in India, as well as amongst natives on shore, in the most interior districts, as at sea, from the testimony of His Majesty's Navy Surgeons, who, in this country, I have been informed, are under the necessity of sending more men on shore with this than any other complaint: at Bombay it has got the name of *Gongola lethifera*, where it has on various occasions been most destructive amongst sea-faring men. In general terms, I should say that the phagedenic ulcer would seem to be induced for the most part by slight external injuries operating upon an irritable frame, already predisposed to the malady by some *debilitating influence*; such as long continued cold and wet, intense heat, heat and moisture combined, deficiency of nourishing diet, whether animal or vegetable, great fatigue, watchfulness, and perhaps the inordinate stimulus of ardent spirits inflaming a body, breathing an unwholesome air, and otherwise not properly supported. But in whatever manner it may be brought on, the balsam of Peru appears to me to have extraordinary powers in the cure of it; and so convinced am I of this, that in the cases which have last come under my care of this dreadful malady, to the virtues of the balsam *alone, as an external application*, unassisted by any internal medicine whatever, have I entirely trusted for a cure, and with success.

The chief things to be noticed on the *first day's* using the balsam, are, a certain sensation of tickling over the face of the sore, the comfort the patient almost immediately feels from the medicine's destroying the offensive odour of putrid ichor; that from this period the sore does not spread, the general ease the person perceives in himself, and lastly the evident effects that the remedy begins to produce on the appearance of the ulcer by loosening the disorganised matter from the edges. On the *second day* much of this commonly comes away with the dressings, and the patient begins to complain that the balsam smarts him excessively, from its being no longer in immediate contact with corrupt slough, but with more sensible parts; his spirits begin to get up, and his pulse becomes fuller. On the *third day* the favorable symptoms are progressive, and I think that, for the most part, by the end of the fourth or fifth day, the surface of the ulcer is clean; sleep and appetite return, the wasting sweats cease; in short, the hectic diathesis gradually goes off. Every day after this is marked by symptoms of recovery; new granulations are seen rising up, red and firm; and at this time I have found it necessary to lay aside the use of the balsam of Peru, and to substitute for it simple dressings, supported by a tighter bandage, or by the adhesive plaister straps, as recommended by Mr. Baynton of Bristol, to prevent the too rapid growth of new substance; this, I say, I have been under the necessity of doing, on two accounts—having observed that the balsam, when the sore is once completely cleansed, not only smarts extremely, but often causes to bleed the tender parts, which its own regenerating power has produced. An ulcer having thus been rendered simple, will of course, with proper care heal up without further trouble.

This medicine no doubt operates in a great degree by its stimulating quality, which is considerable; though this is but a general property, there are certainly other occult virtues which it possesses, as there are in all remedies which have uncommon powers in particular diseases, and which, as depending on the ultimate and characterizing essence of things, will, I fear, long be out of our power to explain. The voracity, if I may be allowed the expression, with which it consumes the ichor of phagedena, is to me wonderful, as is also the capability it seems to possess of expelling fetor. Nor must its balsamic effects be overlooked, which give so much relief to the sufferers, and by which it in a manner soothes whilst it afflicts; for in the midst of the most painful smarting from the application, I have often heard the patient declare that he would willingly bear it, for the sake of the ease and glowing comfort that he knew by experience must follow.

Extract of a Letter from Mr. James Wise, *Surgeon of Negapatam, to Dr.* Ainslie.

September 3, 1806.

"When I took charge of the sick at Nagore, I found no less then ten cases of bad foul spreading ulcer in the hospital; I thought of what you had done, and shewn me, at St. Thomas's Mount, and fortunately finding about four ounces of the balsam of Peru in the medical stores here, I lost no time in prescribing it in the manner you directed; in a few days all the ulcers began to heal; it must be mentioned, however, that in two cases, where a gangrenous appearance prevailed, I employed bark internally at the same time; the sores, one excepted, continued to heal; and this day, a single case only remains in the hospital: this ulcer seemed to heal for some days, and the balsam was in consequence omitted;

but it suddenly and unaccountably again became foul and gangrenous, when the balsam was resorted to with the bark; the healing process recommenced in a few days, and the ulcer now cicatrizes admirably well. This is all that I have had in my power hitherto to accomplish with the balsam of Peru, yet enough to convince me of its astonishing powers in phagedenic sores; If you wish to have any thing more particular, I refer you to my Medical Journal for July, now at the Medical Board." (Signed) JAMES WISE.

Extract of a Letter from Mr. ROBERT GOLDIE, *Assistant Surgeon, at the General Hospital of Fort St. George.*

October 2, 1806.

" You will be pleased to hear that I have just met Captain Sneyd, Govenor of the Navy Hospital of Fort St. George, who informs me that Mr. Woolna, one of the surgeons attached to that hospital, has tried the balsam of Peru in various cases of phagedenic ulcer, and has ascertained its virtues beyond a doubt; I have not been able to see Mr. Woolna this morning, but his account of the medicine is, I understand, this :—

" The balsam of Peru, when applied to a malignant sea-ulcer, immediately arrests its progress, cleanses it in a wonderful manner, softens and smooths the edges, and appears at once to induce a healthy condition in the part: but he at the same time remarks that, if continued long, it is apt to produce granulations of so luxuriant a nature as to require escharotics to keep them down; he therefore advises, after the balsam has once cleansed the sore, that it should be dressed with simple cerate straps and lint; should the sore again get foul, or shew a tendency to spread, he has again recourse to the balsam with the same happy effect, till, betwixt the two, the desired result of a complete *cicatrization* takes place.

" In regard to what has come under my own observation, respecting the use of the medicine in foul spreading ulcers, as I informed you the other evening, I have had occasion to try it but in two cases, in the General Hospital; in both of which it was attended with complete success; the one was a large foul ulcer on the *tibia* of a middle-aged stout man, of long standing, and which had failed my best endeavours to bring to a healing state, by every mode of treatment that has lately been recommended in such cases. I had not applied the balsam of Peru for more than twenty-four hours, when I saw an evident change for the better on the face of the sore; in three days it was perfectly clear, when I omitted the use of the balsam, and had recourse to common simple dressings. In ten days the sore was completely healed, and the man discharged the hospital.

" The other case was nearly similar to this, and attended with the same happy result, with this difference, that the patient took a decoction of cynchona, which in the other case was not administered." (Signed) ROBERT GOLDIE.

St. Thomas's Mount, 3d October, 1806.

A true copy, WHITELAW AINSLIE, M.D.

Note.—The Court of Directors approved of Dr. Ainslie's observations, and directed the Governor General in Council to make them public.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

CHEMISTRY.

I.—*Analysis of Opium, particularly of Morphium and Meconic Acid, considered as essential parts of Opium.* By M. SERTUERNER, Pharmacopolist at Eimbeck, in the Kingdom of Hanover.

(Continued from page 435.)

" III. *Of the Acid of Opium or Meconic Acid.*—7. Having shewn the properties of morphium, we will now examine the liquid from which it was precipitated by the ammonia. After having evaporated it to the consistence of a syrup, a little morphium in irregular crystals was deposited. Ammonia caused a precipitate, which was almost entirely morphium, but which is dissolved in the extractive if the ammonia be disengaged by heat. This extractive has the characters of acidity; but it cannot retain ammonia at an elevated temperature, and combines with morphium, which combination we shall shortly notice. After having evaporated a little morphium by an excess of ammonia, the extract of opium was filtered, dissolved in distilled water, the ammonia disengaged by heat, and a solution of muriate of barytes added until there ceased to be any precipitate. The precipitate, washed and dried, weighed six drachms. It is a quadruple combination of barytes, morphium, meconic acid, and extractive, sparingly soluble in water.

" 8. I endeavoured to separate the morphium from the extractive by means of alcohol, and to leave the meconic acid pure in the liquid, by saturating the barytes with a sufficient quantity of sulphuric acid. I succeeded in obtaining the meconic acid by evaporation; but, as it was coloured, I was obliged to subject it to sublimation. It melted first in its water of crystallization, and then sublimed in fine long needles. It was colourless, of an acid taste, had all the properties of the strong acids, and distinguished itself by its strong affinity for the oxide of iron, which it precipitated from its muriatic solution, of a cherry-red colour, even when there was a slight excess of acid. But it did not indicate the presence of iron in the ferrugeneous prussiate of potass, as I had at first thought, from being deceived by the high colour of the acid which I had employed. The apparatus unfortunately burst during the sublimation, and the small quantity of acid which I had obtained was by this means still more diminished, so that I was prevented from examining the salts which it formed with the different bases. I combined it only with lime, forming the meconate of lime, which is an acid salt, crystallizes in prisms, is rather insoluble, and is not decomposed by sulphuric acid.

" The meconic acid does not produce any sensible effect upon the human body. I have taken five grains of it without experiencing any inconvenience. It appears to me, that it weakens the effects of opium, and renders it more soluble in water, as indeed do all the acids; and I am of opinion, that this property of the acids is owing to their forming salts with morphium with an excess of acid; but we nevertheless find, that the other salifiable bases are often more hurtful to life in combination with the acids, than when taken in their simple state; and perhaps this may be the case with the salts of morphium.

" 9. The liquid from which I had separated the morphium and the meconic acid was tinged of a red colour by the muriate of iron and by sulphuric acid. By evaporating it to the consistence of syrup, I obtained forty grains of a rather insoluble salt, from which I separated a little morphium by means of alcohol, which had been dissolved by the water and was precipitated during the evaporation. By treating this salt with sulphuric acid, a sulphate of barytes and meconic acid were formed; this salt, therefore, must have been meconate of barytes.

" IV. *Of the other parts soluble in water.*—10. Alcohol having dissolved so little of the morphium from the quadruple combination, I thought it must have been retained by the extractive; and indeed the extract from which I had separated the meconate of barytes, after being diluted with water and evaporated to the consistence of syrup, precipitated about thirty grains of a mass, which I recognised for a combination of extractive with morphium, and which was dissolved by the alcohol, with the exception of a little meconate of barytes which had combined with it. Thinking I had obtained some extractive, I gave ten grains of it, in several doses, to one of my pupils, who soon brought it up by vomiting. A little ammonia formed a slight precipitate in it, which disappeared upon expelling the ammonia by heat. I repeated this experiment several times. The precipitate which was formed in it when cold by the ammonia had the properties of morphium, and combined with the extractive when the ammonia was expelled by heat.

" These results determined me to re-dissolve the extract in water. When this was thickened as usual, I gathered a little of the precipitate by filtration; it had the appearance of morphium with much extractive, it was dissolved by alcohol, and there were some crystalline traces of morphium. When I added the ammonia in excess, the precipitate was very copious, and almost the whole mass became ductile and resinous, which, in a dose of five grains, produced the same effects as the extract of opium, only in a smaller degree. This substance was very little soluble in cold water; it decomposed the metallic salts like morphium; it was soluble in the acids by saturating them, and ammonia, which dissolved a good deal of it, deposited a greyish mass, which was morphium combined with a little extractive. I endeavoured to precipitate the extractive with the morphium by means of sub-acetate of lead, and to separate the morphium from it by means of alcohol; but I obtained only a little morphium, coloured by the extractive; the remainder seemed to me to have formed a triple combination. When I had decomposed the precipitate with sulphuric acid, the extract still possessed its hurtful influence, and, by the addition of ammonia, showed the presence of a resinous substance. It seems to me, that morphium has a great affinity for extractive which is perhaps highly oxidized, and forms different combinations with it; one containing a great deal of morphium, of which the crystals mentioned above are formed; the other containing a good deal of extractive, which is precipitated by the ammonia like a resinous substance, from the extract of opium separated from its acid and from the morphium which was dissolved in it. Although the oxidized extractive was combined in excess with the morphium, the combination, nevertheless, possessed its principal properties; it was little soluble in water, very soluble in alcohol and the acids; it saturated the latter, and was precipitated by ammonia, which, combining with the excess of extractive, formed a substance soluble in water. The extractive, however, which combines with the ammonia still contains morphium. I confess that I ought to have attempted still more to have separated the morphium completely from it by means of æther, the oil of turpentine, or *concentrated* alcohol;

" A combination of extractive with morphium may be formed artificially, by dissolving the morphium with alcohol and treating it with the extractive of some other substance. It belongs to the properties of morphium and of extractive of combining together, because one possesses the character of a base, and the other of an acid.

" v. *Of the parts which are not soluble in water.*—11. Not having digested sufficiently the opium in water, I presumed that the remainder of the opium still contained morphium and meconic acid. I treated it with half an ounce of weak muriatic acid and a sufficient quantity of water. After having filtered the liquor, I added ammonia to it; I obtained, without counting what remained in the liquid, about two drachms of morphium, combined with a good deal of extractive and a pulverulent substance. The ammonia which had been added in excess was disengaged by heat. The liquid, treated with a solution of muriate of barytes, gave by evaporation a small quantity of meconate of barytes.

" 12. The residue from which the extractive, morphium, and the meconic acid, had been separated, by means of water and of muriatic acid, weighed one ounce five drachms; it was almost clammy. I treated it with alcohol until it was no longer coloured. By adding water and distilling the alcohol, I obtained a brown substance, which had the appearance of a balsam, swam upon water, and was almost insoluble in alcohol. It had the odour of fish dried in smoke, and the taste of fat; it burned with a flame, which deposited a great deal of soot; and did not produce any effect upon me or other persons, even in doses of twenty grains. A small dog swallowed some drachms of it without experiencing any pernicious effects. I digested one part of this residue with oil of turpentine, and another with sulphuric æther; and I obtained, by the evaporation of the solvents, a kind of caoutchouc, which appeared to me still to retain a little of the brown substance, especially that which I had obtained by the essence of turpentine. By treating the residue of the opium, deprived of all the soluble parts, with diluted sulphuric acid, I changed it into a mucous substance.

" vi. *Results afforded by the treatment of opium with cold water.*—13. As heat might have had some influence upon the results of my experiments, and not having as yet explained all that Derosne says of opium, I varied them in the following manner. 1000 grains of powdered opium were triturated in a porcelain mortar with small quantities of cold water, which was added at several distinct times. After some hours the liquor was filtered, the opium strongly pressed, and this treatment was continued until the water appeared colourless. This very diluted aqueous tincture, evaporated very slowly, gave an extract different from the first, in not being at all disturbed upon the addition of water. But, ammonia and the ferruginous salts equally indicating the presence of meconate of morphium. I think that it is an acid combination of these two new bodies, because the tincture of litmus was reddened by it. Alcohol does not decompose this salt; extractive is dissolved in it.

"14. The opium extracted by cold water was boiled for a quarter of an hour in a little water. The filtered liquor became very thick upon cooling, and had the appearance of a decoction of cinchona, though not so high coloured, and acted like the sub-meconate of morphium combined with a little extractive. It was deposited upon the sides of the vessel in the form of a brownish mass, in which, after some time, prismatic crystals of meconate of morphium were produced.

"15. The residue was digested with alcohol at an elevated temperature. The brownish liquor filtered deposited, after having been cooled to 5°. C., the salt described by Derosne. This salt, by means of its morphium, restores the colour of reddened litmus paper, and has a weak action upon the ferruginous salts by its meconic acid. At the same time there was deposited at the bottom of the vessel a coloured substance, which, when treated with alcohol, gave a little sub-meconate of morphium. The residue, which was very soluble in alcohol but almost insoluble in water, contained the combination of morphium with the extractive and the brown substance, which has been mentioned before (12). The combination of morphium with extractive is distinguished from resins by this property; also the extractive can be separated from it only with difficulty. Ammonia dissolves still less of it, and diminishes its solubility in water. The remainder, treated once more with alcohol, gave a coloured tincture, which was much thickened by adding water, and did not regain its transparency upon the addition of acetic acid; hence it follows, that the precipitate comes from an oil. The solution contained so little of the combination mentioned above, that the taste was scarcely bitter.

"16. It follows from these observations, that cold water dissolves the meconate of morphium with excess of acid, and almost all the extractive; and that the residue contains sub-meconate of morphium, which is rather insoluble in water, with a little extractive, which is easily dissolved by cold alcohol, but is almost all deposited in crystals.

"*Conclusions.*—17. Without noticing the accidental mixtures which have not been taken into account in this place, but of which I have spoken in my former researches, the *crude opium of commerce* is composed of *meconate of morphium* with little acid, which is divided by warm water into *insoluble sub-*

meconate of morphium and into *acid meconate of morphium*, very soluble in water; supposing that there are no other vegetable acids intermixed, which may redden the litmus paper. The extractive, like the morphium, is divided into two portions; of which, one, which is free, dissolves in cold water; the other part, undoubtedly never oxidized, remains in the residue with the sub-meconate of morphium, and forms by digestion with alcohol some sub-meconate of morphium, and a combination of morphium with extractive, almost insoluble in water, but very soluble in the acids

" Water, when warm, dissolves more morphium than when cold; and morphium is precipitated in the cold from the liquor in combination with a little meconic acid and extractive. The resinous substance and the other constituent parts of opium, have no influence upon its medical virtues; because they are almost insoluble in water as well as in alcohol. Hence there is a great difference between the extract of opium which is prepared with warm water, and that which is prepared with cold; the latter being much more powerful than the former. The tinctures of opium ought to be prepared with pure alcohol, because by it only are the combinations mentioned above dissolved. These tinctures ought not to be kept in places where the temperature is too cold, because some of the salt of morphium will be precipitated. These inconveniences might be obviated by adding a little of the acetic acid, if we were sure that the acetate of morphium possessed the same medical properties as opium, or the meconate of morphium.

" The extract of indigenous poppy-heads prepared with distilled water, gave no signs of morphium when treated with ammonia, even when acetic acid was added. It appears, that this plant contains morphium combined with extractive. I could discover no traces of meconic acid in it. Other chemists who have examined opium, seem to have obtained different results.

" APPENDIX.—I had proceeded thus far in my memoir, when I had occasion to make the following observations upon the preparation of morphium and meconic acid:

" 1. Take eight ounces of opium in powder, rub it up with two or three ounces of concentrated acetic acid and a little distilled water; dilute the paste with two or three pounds of cold water, and filter the liquor. This slightly coloured solution contains acetate and meconate of morphium, extractive, and traces of the combination of extractive with morphium.

" 2. Precipitate the morphium with ammonia, and evaporate the liquor to a fourth part; upon its cooling, separate the morphium by filtration, and precipitate the meconate of ammonia by a sufficient quantity of acetate of barytes. Upon evaporating the liquid to dryness, there is still deposited a little meconate of barytes. The extract from which the acetates had been separated by concentrated alcohol, is almost pure extractive. I have taken it in a dose of ten grains without the least inconvenience.

"3. The residue (1) contains the combination of extractive in excess with morphium, which is rather insoluble in water. I treated it at several times with sulphuric acid diluted with six parts of water; and I decomposed the acid solution by ammonia. This decomposition was not complete, for there always remains some morphium with an excess of extractive, (of brown meconic acid), and a trace of sulphuric acid. This *acid extractive*, or *brown meconic acid*, is without effect: it is morphium which communicates to it its pernicious properties.

"*Conclusions.*—Crude opium then contains *neutral extractive* and *acid extractive*, which both exert no effect upon the animal œconomy. The latter is combined with morphium; but it combines also with the meconate of morphium, and becomes soluble in water. This combination is decomposed only in part by the water; for the residue contains traces of meconic acid, which, forming a triple combination with a large quantity of morphium and extractive, dissolves in water only by degrees. This is the reason why the extract of opium prepared with cold water, contains only a part of the meconate of morphium, and a little of the combination of morphium with the extractive. By adding acetic acid, this combination loses a part of its morphium; and the meconate of morphium separates from the brown meconate of morphium."

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

CASE OF THE LATE PRINCESS CHARLOTTE OF WALES.

THE EDITORS, having been sufficiently apprized that the Profession expected from them some account of this case, the lamentable termination of which has spread such a settled gloom over the British Empire; immediately, on learning that the Physicians who attended it did not mean to publish any statement, (a resolution in the propriety of which, under the circumstances, they perfectly coincide,) strenuously endeavoured to obtain every information respecting it, from such sources as could be depended on. Their exertions have been successful, and they are now enabled to present a report to their readers, which may be regarded as strictly authentic.

In prefacing their narrative, in this place, it is not for them to attempt to paint the simultaneous and wholly unprecedented expression of unfeigned sorrow, which the death of this excellent person, not less elevated by her virtues than by her rank, visibly imprinted on the countenances of the inhabitants of this extended realm. It spoke a language that could not be misconstrued. The profession have participated in this feeling, in common with their fellow subjects; and have borne a part in that extraordinary demonstration of respect for the departed, which, perpetuated in the page of history, will be contemplated by posterity as the most dignified tribute to individual worth, and the sublimest triumph of virtue, which mankind have ever witnessed: a tribute honourable to the object of it in a degree fitted to excite the envy of the proudest monarchs, and an eternal memorial of the ardent feelings of an honest-hearted, brave, and generous people. But as they are incapable of doing justice to this part of the subject, they shall leave it to abler commentators; and proceed to detail the facts they have collected, as far as regards the case in a medical point of view.

The Princess Charlotte, previous to her confinement, was in good health, and immediately under the eye of her accoucheur, Sir Richard Croft, who resided at Clermont for three weeks, up to the moment in which she was taken ill. Dr. Baillie, also, was in attendance, chiefly, we have been informed, on account of a promise exacted from him by the Princess, that he would be near her on this occasion. Her spirits were excellent, and she anticipated only the most favourable issue of the event which was hourly expected.

She was first made sensible of her approaching delivery at seven o'clock, on Monday evening, the third of November; but the labour pains were so inefficient, although acute, as scarcely to evacuate the water, which had ruptured the membranes at the commencement of the labour; a circumstance, however, which every accoucheur knows prognosticates nothing either uncommon or untoward. In this manner the labour proceeded, slowly, for twenty-six hours; the Princess being frequently up and walking about, from finding that the pains almost left her when she was in the recumbent posture. About this time, also, judging from the inefficiency of the pains, and the little progress made in the labour, we understand Sir Richard Croft suspected that there were either twins, or that there existed some irregular action of the uterus: and, as it was probable a consultation might ultimately be required, he wrote to Doctor John Sims, requesting his immediate attendance. He had, in the mean time, provided whatever could be wanted, should it be found expedient to have recourse to artificial delivery.

Dr. Sims arrived at Clermont at two o'clock in the morning of Wednesday, but did not then see the Princess; and, as the cause of this has been grossly mis-stated, we think it proper, in justification of an honourable man, and so highly respected a member of the profession as Sir Richard Croft is well known to be, to state, that we have been informed, from a quarter which we must credit, that it was proposed by Sir Richard to Dr. Sims, that he should then be introduced to the Princess; but both Dr. Sims himself and Dr. Baillie thought his presence, at that time, could not be productive of any benefit, but might agitate the patient. Dr. Sims, therefore, declined entering the lying-in room. No consultation was at this period necessary, as the labour was evidently advancing, although slowly: but, on hearing the statement of the situation of the Princess from Sir Richard Croft, Dr. Sims concurred in the opinion that every thing should be left to Nature.

About noon, on Wednesday, it was first suspected that the child might be dead, or that it might be born in a state of suspended animation; and every known means of recovery were immediately prepared. Still the labour continued to be scarcely progressive, the pains being such as tend to forward birth rather by moulding the head so as to admit of its easy passage, than by forcible expulsion. When this was completed, the pains became more efficient; and, at the termination of fifty hours from the commencement of the labour, the Princess was delivered, by natural efforts, of a still-born male child. No great discharge followed the birth; but it was soon discovered that the uterus was acting irregularly, and taking on the hour-glass contraction; and an unfavourable separation of the placenta was anticipated. This likewise, in some degree, accounted for the protracted character of the labour.

At half-past nine o'clock, a discharge of blood occurred. Dr. Sims, who was then employed in an adjoining room in endeavours to re-animate the infant, was instantly informed of this occurrence; and, in consultation with Sir Richard Croft, agreed that the immediate separation and removal of the after-birth was necessary. It was effected with little difficulty, and was followed by a very trifling discharge either of fluid or coagulated blood.

The Princess was now as well and composed as ladies usually are immediately after delivery; and continued so until a quarter before twelve o'clock, taking frequently small supplies of nourishment; but at this time she became restless and rather talkative, and complained of being sick. She vomited, but nothing was ejected, except a little camphor julep, which she had taken; and at this moment her pulse was firm, steady, and under a hundred. She again was composed. About half past twelve, however, the breathing became impeded; the respiratory organs were evidently under the influence of spasm, and continued in that state until she breathed her last, at half-past two o'clock; exactly five hours and a half after her delivery.

In this afflicting state of the case, Dr. Baillie and Dr. Sims, who had been called into the room when the breathing first became affected, united their judgment and their skill with that of Sir Richard Croft, but in vain, to avert the impending calamity. Art proved unavailing, although every thing which it could devise, and which Experience could suggest, was attempted.

On the seventh of November, the body was opened by Sir Everard Home, assisted by Sir David Dundas, Mr. Brande, and the Apothecary of Prince Leopold's Household; and, we believe, the following is a pretty accurate statement of the appearances these gentlemen observed:

The membranes of the brain presented their natural aspect. The vessels of the pia mater were less distended with blood than was to be expected after so severe a labour. The ventricles of the brain contained very little fluid. The plexus choroides was of a pale colour, and the substance of the brain had its natural texture.

The pericardium contained two ounces of red coloured fluid. The heart itself and the lungs were in a natural state. The stomach contained nearly three pints of liquid. The colon was distended with air. The kidneys and other abdominal viscera were in a natural state.

The uterus contained a *considerable* quantity of blood, and extended as high up in the abdomen as the navel; and the hour-glass contraction was still very apparent.

The foregoing narrative throws very little light upon the immediate cause of the death of the Princess. The fluid found in the pericardium might have obstructed the due action of the heart; but it is not easy to account for its presence there, nor to conceive how so large a quantity could have been effused during the short space of time that supervened to delivery, before the breathing became impeded. The quantity of the blood which was found in the uterus might have induced exhaustion; but this opinion can only be conjectural, as it is impossible to draw any certain inference from the rather indefinite expression "considerable," contained in the REPORT of the Surgeons. Imagination indeed has been busy, and a phalanx of casual circumstances have been arranged to account for the dissolution; some of which are ungenerously and too unguardedly, not to say maliciously, calculated to attach blame to her attendants; but we must deprecate such expositions, as unjust to the individuals concerned, and in no degree honourable to the Profession.

We have been informed that the whole of the Royal Family are liable to spasms of a violent description; and to this hereditary predisposition, and the increased excitability of the amiable sufferer, owing to the tedious nature of the labour, are we left to ascribe an event, which has destroyed the flattering hopes of the Nation, and lopped off the fairest branch from the stem of its Monarchal Succession.

A LIST *of* PERSONS *who have obtained Certificates of their Fitness and Qualification to practise as* APOTHECARIES, *and to act as* ASSISTANTS, *from August* 1, 1816, *to July* 31, 1817.

*** Those who are marked thus*, are authorised to practise in London and ten Miles round. Those who are marked thus ‡, are Members of the Worshipful Society of Apothecaries.

Abraham, Thomas
Adams, Nicholas
Allen, J. N. *Ulverstone, Lancash.*
Allison, Wm. *Bilby,* nr. *Worksop*
*‡Anderson, G. H. *Fleet-st. Lond.*
Balme, William Nettleton
Barker, William
Barter, Thos. *Pool, Dorsetshire*
Batty, Edward
Beale, John Evans, *Gloucester*
Beckett, Richard
Beeston, W. W. *Wellington, Salop*
Bell, Thomas, *Newport, Essex*
*‡Biddell, J. *Middlesex Hospital*
Birdsall, William
‡Bompass, J. C. *Bristol*
Bond, W. Y. *Chudleigh, Devon*
Bowden, Samuel Fitzherbert
Brendon, P. *R. N. Hosp. Plymouth*
Broadbent, R. *Altringham, Chesh.*
Brougham, S. *Falmouth, Cornw.*
Brown, Peter
*‡Browne, T. jun. *Camberwell*
Burrough, Rich. F. *Dartmouth*
Calvert, George
Cave, Thomas
Chapman, James, *Kirton, Suffolk*
Clark, H. *Portsmouth, Hants.*
Clark, Benjamin, *Northampton*
Clater, Samuel, *Retford*
*Cleave, Walter Oke, *London*
Coates, B. D. *Huddersfield*
Cooke, B. J. *Stroud, Gloucestersh.*
Cooke, William Henry
Critchley, Thos. Hodgkinson
Daniel, Edw. *Burslem, Staffords.*
D'Aranda, G. *Billericay, Essex*
Davidson, Thos. *Inverness*
Day, Edw. Elmsall, *Bristol*
Dixon, Charles
Dixon, A. *Stourbridge, Worcester.*
Dutton, Wm. *Bacton, Suffolk*
Duncan, J. H. *Wrotham, Kent*
Dyer, William
Earle, Fran. *Masham, Yorksh.*
Eddowes, J. H. *Loughborough*
Eddowes, W. K. *Belton, Leicester.*
Edman, C. *Alford, Lincolnshire*
Edwards, Edw. *Strood, Kent*
Evans, Humph. Jones, *Anglesea*
*‡Evans, Thos. *Old-st. London*
Fawdington, T. *Thirsk, Yorks.*
Ferraby, Charles
Flint, Richard
Frankish, W. B. *Birmingham*
Ford, Jas. *Hanley, Staffordshire*
Ford, Rob. *Highworth, Wilts.*
Fosbrook, J. E. *Rugby, Warwick.*
Fowler, Fred. *Collumpton, Devon*
Frost, Wm. *Needham-Market*
*Gaitskell, William
*‡Galindo, Richard Miles
Garlick, Joseph Prince, *Leeds*
Gilpin, Richard
‡Gossett, Daniel
Gray, Thomas Nathaniel
*‡Griffiths, John
Grist, William
Grime, William
Hardy, William
Haworth, S. *Skipton in Craven*
Haxby, Henry
Heeley, Jos. *Walsall, Staffordsh.*
Henchman, Charles Wishaw
Hensleigh, H. *Brixton, Devon*
Hewett, Wm. Wright
Heynes, Charles Stokes
Hibbert, John Mason
Hill, John, *Derby*
Hodgshon, George, *Darlington*
Holland, Rob. Geo. *Sheffield*
Hounsell, John
Hughes, William Anthony
Hunt, Sam. *Loughborough*
Hunt, Fran. *Bath, Somersetshire*
*Inman, Charles
Irish, Thomas Trenham
Kendall, W. *Ashburton, Devonsh.*
Kirkby, N. W. *Hull, Yorkshire*
Knight, Geo. *Debenham, Suffolk*
Knowles, J. *Todmorden*
Lacy, Jas. Prior, *Newark*
Layman, William Henry
Ledbrook, L. *Swerford, Oxfords.*
Lees, Lloyd, *Halifax, Yorkshire*
Lessey, Thos. *Manchester*

Liveing, Edward
Longstaff, William Hilton
Mackereth, George Wilson
Mac Turk, William
Madden, Rich. *Liverpool*
Mark, Edward Robson
Marner, J. *Attleborough, Norfolk*
Martin, John Philip
Martineau, Thos. *Norwich*
Mathias, William, *Cardigan*
*‡ Maudsley, John, *Princes-st. Hanover-square, London*
Maysmor, R. P. *Ashburn, Derbys.*
Meek, Robert
Metcalfe, R. Ives, *Spalding*
*Miles, John, *London*
Mills, Chas. A. *Pulham, Norfolk*
Mimpriss, Thomas Roberts
Mitchell, H. *High Ongar, Essex*
Neville Wm. H. *Esher, Surry*
Nicholson, Richard
Norris, W. *Stourbridge, Worcester*
Orton, J. *Kegworth, Leicestersh.*
Parson, C. A. *Godalming, Surry*
Pargeter, C. *Fordingbridge, Hants*
Pater, Henry Thompson
Paterson, Thos. Willis, *Leicester*
Paty, James
Peck, Thomas, *Wellingborough,*
Pitman, Wm. *Andover, Hants*
Poole, Winter Cuppage
Powell, Morgan, *Swansea*
Puddicombe, Alfred, *Moreton-Hampstead, Devon*
Pughe, Robert
Radford, Thomas, *Manchester*
Reedal, Gabriel, *Hull, Yorkshire*
Richards, Henry
Richardson, John, *Leeds, Yorksh.*
Rogerson, Jos. *Wigan, Lancash.*
Rose, George
Salmon, Fred. *Bath*
Salter, John
*Sandford, W. N. *Bridge-road, Lambeth, Surry*
*Saumarez, F. *Newington, Surry*
Sharp, J. *St. Helen's, Lancash.*
Smith, Benjamin, *Lincoln*
*Smith, John Simm, *London*
Snow, Wm. *Barnstaple, Devon*
Stables, Marsh. *Horsforth, Yorks.*
Statter, Edward, *Lancaster*
Stephens, Hen. *Redburn, Herts.*
Stevens, Wm. *Newmarket*
Stillwell, James
Stowe, Wm. *Oxford*
Swan, Arthur, *Southwick, Hants*
Tanner, C, *Collumpton, Devon*
Taylor, Wm. *Cuckney, Notts.*
Taylor, Charles, *Plymouth*
Thompson, Charles Matthew
Thorne, J. W. *St. Teath, Cornwall*
Thornton, Wm. Booth
*Towry, Benj. Jolit, *Gt. St. Helens, London*
Tozer, F. E. *Mildenhall, Suffolk*
Uttley, Jn. *Todmorton, Lancash.*
Walne, D. H. *Norwich*
Waterworth, Edward Henry
Watkins, Daniel
*Weaver, Edward, *Blackmoor-st.*
Wentworth, Wm. *Cambridge*
‡Wheeler, Wm. Lowe
Wheelhouse, Jas. *Leeds, Yorksh.*
*White Steph. *Red Lion-st. Lond.*
*White, Richard
Wilde, G. R. *Mildenhall, Suffolk*
Wilkinson, Edw. Entwistle
Wills, Geo. *Kingskerswell, Devon*
Wilton, John
Wilton, Wm. *Bath Easton*
Winstone, Thomas
*Witherington, E. *Gt. Prescot-st.*
Wood, Thomas, *Leeds, Yorksh.*
Woodward, Thomas Charles
Wooler, Wm. Moore, *Dewsbury*
Worley, J. E. *Stoney Stratford*
Wray, S. *Thoralby,* near *Bedale*
Wright, William, *Liverpool*

ASSISTANTS.

Obaldeston, Thomas
Rollings, Richard

NOTICES OF LECTURES.

Dr. Merriman and Dr. Ley will begin another Course of Lectures on Midwifery and the Diseases of Women and Children early in December, at the Middlesex Hospital.

Dr. Davis will commence his Second Winter Course of Lectures on the Theory and Practice [redacted] the Diseases of Women and Children, on

LITERARY NOTICE.

Mr. A. T. Thomson's Second Edition of the London Dispensatory will contain all the improvements in Pharmaceutical Chemistry and the alterations that have taken place in the British Pharmacopœias since its first appearance; and also, synonymes of the names of the articles of the Materia Medica, and the preparations, in the French, German, Italian, Spanish, and Hindostanée, languages. The work is already in the press.

A METEOROLOGICAL TABLE,

From the 21st of October to the 20th of November 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer.				Therm.		Rain Gage.	Winds.	Weather.
	Max.		Min.		Max	Min.			
21	29	55	29	53	50	40	03	NbW.NE.	1 3 Cloudy.. 2 S. 4 R.
22	29	72	29	66	50	34		NE.NW.	1 Mist... 2 Cy.. 4 Mn...
23	29	75	29	72	48	38		NW.	1 3 4 Cy.. 2 Sun.
24	29	66	29	56	49	39	07	NW.	1 Cy.. 2 Rain.
25	29	49	29	42	48	38		NE.SE.	1 Cloudy...
26	29	40	29	31	48	32		SE.	1 Cloud... 4 Moon..
27	29	02	28	97	45	31	17	SW..SE..	1 S... 2 R. 4 Moon...
28	29	02	29	02	46	33		SW..S..	1 3 S.. 2 Sh. 4 Moon..
29	29	08	28	65	44	32	07	SW..	1 Sun.. & Showers.
30	28	95	28	90	49	37	28	SW...	1 Sh. & Sun.. 4 R..
31	29	59	29	38	44	36	07	SW...	1 R. 2 Sun.. & Sh.
1	29	91	29	66	47	35	04	WSW...	1 Sun... 4 R.
2	29	76	29	70	51	40		SE..S..	1 3 R. 2 4 Cy..
3	29	76	29	67	55	44		SE.SW.	1 Mist.. 2 Sun..
4	29	65	29	56	53	46	02	SE.	1 Mist.. 2 S.. 4 R.
5	29	55	29	49	49	40	01	SE.SF...	1 Mist.... 4 Starl..
6	29	47	29	36	50	39	10	SW.SE.	1 Sun... 3 Cy.. 4 R..
7	29	10	29	05	57	46	16	SE..	1 Mist... 2 S. 4 R..
8	29	07	28	88	51	44	22	SE..	1 Sun.. 3 R..
9	29	47	29	42	49	42	11	SW..	1 Sun.. & Showers..
10	29	47	29	33	52	45		S..	1 Sun.. 2 Cloudy..
11	29	35	29	33	50	37	15	SE..SW..	1 Cy.. 2 R.. 3 Sun..
12	29	27	29	18	50	39	10	SE.	1 Mist... 2 R..
13	29	38	29	25	46	33	03	W.SW.	1 Sun... 4 R.
14	29	12	29	03	50	42	38	E.	1 Mist.... 3 R...
15	29	31	28	99	53	40	18	SE..SW..	1 R.. 4 Moon..
16	29	70	29	60	52	43		SW..	1 Sun...
17	29	72	29	60	54	46		Vble.SW..	1 3 Cy.. 2 S. 4 Moon..
18	29	93	29	88	54	42	02	SW...W..	1 R. 2 Sun...
19	30	04	30		50	37		WbN..	1 3 C.. 2 Cy.. 4 Moon...
20	29	62	29	44	52	44		W..SW...	1 Sun...

The quantity of rain during the month of October was 1 inch 40-100ths.

Observations on Diseases at Richmond.

The weather in this last period has been wet, but not very cold.

The prevailing disorders were chiefly seated in the stomach, bowels, and liver. Diarrhœa was very common, but readily yielded to a dose of calomel at bed time with an aperient mixture in the morning. There were also some cases of Catarrhal and simple fever. Cases of Asthma, Dyspepsia, Gastrodynia, Icterus, and Obstipatio, have been under treatment.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of OCTOBER to the 19*th of NOVEMBER,* 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, *High Holborn.*

M.	D.	Therm.			Barom.		Rain Guage	De Luc's Dry.	Hygrom. Damp.		Winds.		Atmo. Variation		
	20	45	47	44	29^{9}	29^{9}			1	1	N	NNE	Rain	——	Clo.
	21	47	49	40	29^{9}	29^{8}			2	2	NE	E	Fog	Rain	Clo.
	22	43	50	41	29^{8}	29^{8}	.05		2	1	N	N	Fog	Clo.	——
	23	45	48	41	29^{8}	29^{8}			1	1	NNE	NE	Fine	——	Clo.
	24	44	52	44	29^{8}	29^{8}	.09		2	1	N	SE	Fog	Clo.	Rain
	25	44	50	41	29^{6}	29^{7}	.08		2	2	SE	S	Fine	——	——
○	26	45	49	38	29^{8}	29^{8}			2	2	S	S	Fine	——	——
	27	44	47	40	29^{9}	29^{9}	.06		1	2	S	W	Fog	Clo.	Rain
	28	46	52	40	29^{8}	29^{6}	.04		1	2	SSE	SE	Fog	Fine	Clo.
	29	45	49	40	29^{6}	29^{6}	.09		2	1	S	SW	Rain	——	——
	30	40	47	41	29^{4}	29^{4}	.13		2	1	SSW	WSW	Rain	——	——
	31	40	48	38	29^{3}	30	.19		2	2	Wva	WSW	Clo.	Rain	Fine
	1	42	48	34	30^{3}	30^{5}			2	2	SW	S	Fog	Fine	——
◑	2	45	47	49	30^{3}	30^{2}			3	3	S	SSW	Clo.	——	Rain
	3	54	57	50	30^{2}	30^{1}	.09		5	6	S	SE	Clo.	——	Fog
	4	50	53	48	30^{1}	30			6	5	SE	SE	Clo.	——	——
	5	50	55	50	29^{9}	29^{9}			5	5	SSE	SE	Fog	Clo.	——
	6	52	54	52	29^{9}	29^{8}			6	6	SE	SE	Clo.	——	Rain
	7	55	57	49	29^{7}	29^{5}	.11		5	5	SSE	S	Fine	——	Rain
	8	50	51	47	29^{5}	29^{5}	.06		3	3	S	S	Fine	——	Rain
●	9	49	52	50	29^{7}	29^{9}	.13		2	2	SW	S	Fine	——	——
	10	52	53	49	29^{9}	29^{9}			2	2	S	SSE	Clo.	Rain	Clo.
	11	51	54	49	29^{9}	29^{8}	.07		2	1	SE	S	Fine	Rain	Fine
	12	50	52	45	29^{7}	29^{5}	.10		1	5	S	S	Clo.	Rain	——
	13	45	50	47	29^{8}	29^{7}	.19		4	2	SW	ESE	Fine	——	——
	14	52	55	49	29^{7}	29^{5}			2	3	SE	SE	Clo.	Rain	Fine
◐	15	50	58	50	29^{5}	29^{6}	.03		5	2	S	S	Rain	——	——
	16	50	53	47	29^{8}	30^{1}	.09		2	5	S	SW	Clo.	Rain	Clo.
	17	49	57	45	30^{2}	30^{2}			7	8	SW	W	Clo.	Rain	——
	18	49	53	45	30^{2}	30^{2}			5	5	SSW	WSW	Fine	——	——
	19	47	53	39	30^{3}	30^{1}	.05		4	4	W	W	Fine	——	——

The quantity of Rain fallen in the mouth of October, is 1 inch and 65-100ths.

BILL OF MORTALITY *from October* 14, *to November* 18, 1817.

		Oct. 21	Oct. 28.	Nov. 4.	Nov. 11.	Nov. 18.	
CHRISTENED.	Males	343	284	275	250	280	
	Females	307	250	256	204	201	
		650	534	531	454	481	Total, *(five weeks)* 2650.
BURIED	Males	247	225	236	216	196	
	Females	232	236	229	202	210	
		479	461	465	418	406	Total, *(five weeks)* 2229.
OF WHOM HAVE DIED	Under 2 Years	122	115	107	129	87	
	Betw. 2 and 5	42	61	44	42	41	
	5 and 10	18	26	21	19	14	
	10 and 20	17	11	17	14	12	
	20 and 30	35	20	31	35	25	
	30 and 40	46	39	44	34	41	
	40 and 50	55	53	47	33	45	
	50 and 60	44	42	47	39	47	
	60 and 70	42	45	45	33	40	
	70 and 80	35	27	33	23	30	
	80 and 90	18	17	24	13	19	
	90 and 100	5	5	5	4	4	
SMALL POX		26	22	25	22	20	

Total of Small Pox...*(five weeks)*...115.

A REGISTER OF DISEASES

Between OCTOBER *20th, and* NOVEMBER *19th,* 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	17		Erythema *læve*	2	
Abscessio	25		Exostosis	1	
Acne	4		Febris *intermittent.*	4	
Amenorrhœa	30		——— *catarrhalis*	63	
Amentia	1		——— *Synocha*	23	
Anasarca	27	4	——— *Typhus mitior*	50	3
Angina Pectoris	1		——— *Typhus gravior*	9	4
Aphtha *lactentium*	12		——— *Synochus*	86	1
——— *anginosa*	2		——— *Puerpera*	2	
Apoplexia	11	7	——— *remit. Infant.*	23	2
Ascites	11	3	Fistula	2	
Asthenia	38	2	Fungus	2	
Asthma	59	6	Furunculus	6	
Atrophia	4	1	Gastritis	1	
Bronchitis *acuta*	9	1	Gastrodynia	25	
——— *chronica*	9	2	Gonorrhœa	32	
Calculus	1		Hæmatemesis	1	
Caligo	1		Hæmoptöe	13	1
Cancer	5	1	Hæmorrhois	23	
Cardialgia	11		Hemiplegia	3	
Carditis	2		Hepatalgia	5	
Catarrhus	94		Hepatitis *acuta*	23	3
Cephalalgia	43		——— *chronica*	6	
Cephalæa	3		Hernia	2	
Chlorosis	4		——— *humorrhalis*	1	
Chorea	2		Herpes *Zoster*	6	
Cholera	26		——— *circinatus*	1	
Colica	16		——— *labialis*	1	
——— *Pictonum*	4		Hydrarthyrus	1	
Convulsio	14	3	Hydrocele	2	
Cynanche *Tonsillaris*	41		Hydrocephalus	5	3
——— *maligna*	7	1	Hydrothorax.	7	2
——— *Trachealis*	2	1	Hypochondriasis	8	
——— *Parotidea*	6		Hysteralgia	5	
Delirium Tremens	1		Hysteria	15	
Diarrhœa	67		Icterus	10	
Dysenteria	21	3	Impetigo *figurata*	4	
Dyspepsia	59	1	——— *sparsa*	2	
Dyspnœa	17	1	——— *scabida*	2	
Dysphagia	1	1	Ischias	2	
Dystocia	2		Ischuria	3	
Dysuria	4		Lepra	1	
Ecthyma	6		Leucorrhœa	19	
Eczema	4		Lumbago	6	
Eneuresis	2		Mania	9	
Enteritis	5		Melancholia	2	
Entrodynia	23		Menorrhagia	26	
Epilepsia.	4	1	Miliaria	2	
Epistaxis	8		Morbi *Infantiles**	83	
Erysipelas	17		Morbi *Biliosi*†	79	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Nephralgia	2		Psoriasis *guttata*	2	
Nephritis	3		Purpura *simplex*	1	
Neuralgia	2		Pyrosis	7	
Obstipatio	19		Rheumatismus *acutus*	39	
Odontalgia	17		——— *chronicus*	47	
Opththalmia	32		Roseola	6	
Otalgia	6		Rubeola	38	1
Palpitatio	4		Scabies	53	
Paracusis	3		Scarlatina *simplex*	16	
Paralysis	13		——— *anginosa*	9	1
Paraplegia	2	1	——— *maligna*	3	1
Paronychia	4		Scorbutus	2	
Peripneumonia	19	1	Scrofula	13	
Peritonitis	4		Spasmi	6	1
Pernio	1		Strictura	1	
Pertussis	33	2	Strophulus *intertinctus*	5	
Phlegmasia *dolens*	2		Sphacelus	1	1
Phlogosis	9		Syncope	6	
Phrenitis	3	2	Syphilis	36	
Phthisis *Pulmonalis*	31	13	Tabes Mesenterica	5	1
Physconia	1		Tic Douloureux	1	
Pityriasis	3		Tympanites	1	
Plethora	5		Vaccinia	75	
Pleuritis	16		Varicella	11	
Pleurodyne	17		Variola	29	6
Pneumonia	35	2	Vermes	21	1
Podagra	9		Vertigo	17	
Porrigo *scutulata*	6		Urticaria *febrilis*	7	
——— *favosa*	3		——— *evanida*	2	
Prolapsus	5				
Prurigo *mitis*	2		Total of Cases	2249	—
——— *senilis*	5		Total of Deaths	......	91

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

The last month has been productive of an increased number of affections of the cerebral functions, as the number of cases under *Apoplexia, Paralysis*, and *Mania*, evinces.

Rubeola and *Scarlatina* are also more common; and *Variola* still continues its unsparing ravages. Four cases of the latter are reported after vaccination; one of which terminated fatally: and a young man who was inoculated with small pox when a child, fell a sacrifice to that disease in the natural way.

The subject of *Fever* still occupies the public mind: we have, therefore, thought it our duty to make particular inquiries respecting the extent and site of it. It will be seen by the present Register that *Typhus mitior, Typhus gravior*, and *Synochus*, have all increased since our last Report. But whatever the nature of the fever may be, and in whatever districts it prevails, it assuredly is not of a malignant character. In the western and south-western districts Typhus is scarcely known: in the north-west it exists, but not greatly, and only among the poor: the same may be said in the northern, where, although there are most cases reported, yet they are of the mild kind, and almost wholly confined to the lower orders: among the same classes it also prevails about Lambeth.

In the north-eastern district, both Synochus and a contagious fever is frequent among the poor, which our intelligent Reporter ascribes to the ignorance and obstinacy of the friends of the sick persisting in visiting them, and preventing proper ventilation: and hence the necessity and utility of insulating the sick entirely, by removing them into fever wards, or institutions provided for that purpose. This would be the surest mode of stopping all fevers *in limine,* and of guarding against contagion in populous towns. The City, and the eastern districts, are as free from contagious fever as Westminster. But all accounts agree that there is more of a fever, call it Typhus mitior or Synochus, than there was a month ago. Of the latter, a Reporter, at the western extremity of the town, thus speaks:

" In the greater number of the cases of *Synochus,* which were of the form of the bilious remittent, there was a very peculiar secretion of bile, for this climate; the alvine discharges in the commencement of the diseases having very much the appearance of a mixture of soot or black sand in dirty water; and, in one case, matter of the same appearance was vomited. The liver generally felt tender when pressure was made over the hypochondrium; and in a few instances the most intense head-ache and delirium accompanied this symptom. Indeed the whole character of the disease was such as to afford sufficient reason for thinking that, had it occurred in a tropical climate, it would have assumed all the characters of the Yellow Fever. The blood presented a cupped surface and sizy coat, somewhat resembling glue; and when drawn in the state of the greatest apparent debility of pulse, afforded the most satisfactory relief. The principal remedial means employed, were bleeding, purging with large and repeated doses of calomel and senna, and the exhibition of the nitric acid largely diluted. Blisters also were applied to the nape of the neck, and the body freely sponged with vinegar and water.

" In one case the stools had the appearance above described, without the presence of any fever. Purgatives were freely administered, without producing any beneficial effect; nor did their appearance alter, until the nitro-muriatic bath was employed, and the acid also internally exhibited."

Quarterly Report of Prices of SUBSTANCES *employed in* PHARMACY.

		S.	D.
Acaciæ Gummi elect.	lb.	7	0
Acidum Citricum		28	0
— Bensoicum	unc.	6	8
— Sulphuricum	P. lb.	0	7
— Muriaticum		1	8
— Nitricum		4	0
— Aceticum	unc.	3	0
Alcohol	M. lb.	5	6
Æther sulphuricus		10	6
— rectificatus		14	0
Aloes spicatæ extractum	lb.	7	6
— vulgaris extractum		5	0
Alumen		0	6
Ammoniæ Murias		2	4
— Subcarbonas		3	6
Amygdalæ dulces		3	0
Ammoniacum (Gutt.)		12	0
— (Lump.)		5	0
Anthemidis Flores		3	0
Antimonii oxydum		7	0
— sulphuretum		1	0
Antimonium Tartarizatum		8	0
Arsenici Oxydum		3	6
Assafœtidæ Gummi-resina	lb.	8	0
Aurantii Cortex		5	0
Argenti Nitras	unc.	7	0
Balsamum Peruvianum	lb.	30	0
Balsamum Tolutanum		20	0
Benzoinum elect.		14	0
Calamina præparata		0	8
Calumbæ Radix		5	6
Cambogia		9	0
Camphora		7	6
Canellæ Cortex		4	0
Cardamomi Semina opt.	lb.	10	6
Cascarillæ Cortex		3	0
Castoreum	unc.	4	0
Catechu Extractum	lb.	3	6
Cetaceum		4	0
Cera alba		4	0
— flava		3	9
Cinchonæ cordifoliæ Cortex (yellow)		6	6
— lancifoliæ Cortex (quilled)		9	0
— oblongifoliæ Cortex (red)		16	0
Cinnamomi Cortex		17	0
Coccus (Coccinella)	unc.	3	0
Colocynthidis Pulpa	lb.	20	0
Copaiba		5	6
Colchici Radix		3	0
Croci stigmata	unc.	7	0
Cupri sulphas	lb.	1	2
Cuprum ammoniatum		10	6
Cuspariæ Cortex		4	0
Confectio aromatica		11	0

		S.	D.
Confectio Aurantiorum		4	0
—— Opii		6	6
—— Rosæ caninæ		2	3
—— Rosæ gallicæ		2	0
—— Sennæ		2	4
Emplastrum Lyttæ		7	0
—— Hydrargyri		3	6
Extractum Belladonnæ	unc.	1	6
—— Cinchonæ		3	0
—— Cinchonæ resinosum		5	0
—— Colocynthidis		4	0
—— Colocynthidis comp.		2	4
—— Conii		0	9
—— Elaterii		60	0
—— Gentianæ		0	6
—— Glycyrrhizæ	lb.	5	0
—— Hæmatoxyli	nc.	0	9
—— Humuli		0	9
—— Hyoscami	unc.	1	3
—— Jalapæ	Res.	4	0
—— Opii		4	0
—— Papaveris		1	0
—— Rhei		2	6
—— Sarsaparillæ		1	6
—— Taraxaci		0	9
Ferri subcarbonas	lb.	4	0
— sulphas		2	0
Ferrum ammoniatum		5	0
—— tartarizatum		6	0
Galbani Gummi-resina.		12	0
Gentianæ Radix elect		1	4
Guaiaci resina		7	6
Hydrargyrum purificatum		6	0
—— præcipitatum album		9	0
—— cum creta		8	0
Hydrargyri Oxymurias	unc.	0	9
—— Submurias		0	9
—— Nitrico-Oxydum		0	8
—— Oxydum Cinereum		1	6
—— Oxydum rubrum		6	0
—— Sulphuretum nigrum		0	4
—— —— rubrum		0	9
Hellebori nigri Radix	lb.	4	0
Ipecacuanhæ Radix		16	0
—— Pulvis		18	0
Jalapæ Radix		6	0
—— Pulvis		7	0
Kino		12	0
Liquor Plumbi subacetatis	M. lb.	1	8
— Ammoniæ		3	6
— Potassæ		2	6
Linimentum Camphoræ comp.		4	6
—— saponis comp.		4	0
Lichen	lb.	1	6
Lyttæ		12	0
Magnesia		12	6
Magnesiæ Carbonas		4	0
—— Sulphas, opt.		0	10
Manna optima		6	6
— communis		4	0
Moschus pod, (30*s*.)	in gr. unc.	54	0
Mastiche	lb.	7	0
Myristicæ Nuclei		16	0
Myrrha elect.		8	0
Olibanum		4	6
Opium (Turkey)		48	0
Opium (East India)			
Oleum Amygdalarum	lb.	5	0
— Anisi	unc.	3	0
— Anthemidis		6	6
— Cassiæ		8	0
— Caryophilli		6	6
— Carui		1	6
— Juniperi Ang.		4	0
— Lavandulæ		6	0
— Menthæ piperitæ	unc.	4	0
— Menthæ viridis Ang.		5	0
— Pimentæ	unc.	5	6
— Ricini optim.	(per bottle)	10	6

		S.	D.
Oleum Rosmarini	unc.	0	9
— Succini 2*s*. 6*d*. ——	rect.	5	0
— Sulphuratum	P. lb.	1	6
— Terebinthinæ		1	0
— — rectificatum		2	0
Olivæ Oleum	cong.	22	0
— Oleum secundum		15	0
Papaveris Capsulæ	(per 100)	3	6
Plumbi subcarbonas	lb.	0	8
— Superacetas		2	6
— Oxydum semi-vitreum		0	9
Potassa Fusa	unc.	1	4
— cum Calce		0	6
Potassæ Nitras	lb.	1	0
— Acetas		10	0
— Carbonas		4	6
— Subcarbonas		1	8
— Sulphas		1	4
— Sulphuretum		4	0
— Supersulphas		1	6
— Tartras		4	0
— Supertartras		1	6
Pilulæ Hydrargyri	unc.	0	9
Pulvis Antimonialis		0	9
— Contrayervæ comp.		0	6
— Tragacanthæ comp.		0	6
Resina Flava	lb.	0	4
Rhæi Radix (Russia)		40	0
—— (East India) opt.		14	0
Rosæ petala		10	6
Sapo (Spanish)		2	6
Sarsaparillæ Radix (Lisbon)		7	6
Scammoneæ Gummi-Resina	unc.	5	6
Scillæ Radix siccat, opt. Ang.	lb.	5	0
Senegæ Radix		4	6
Sennæ Folia		6	6
Serpentariæ Radix		7	0
Simaroubæ Cortex		6	0
Sodæ subboras		4	0
— Sulphas		0	5
— Carbonas		6	0
— Subcarbonas		2	0
— — exsiccata		5	0
Soda tartarizata		2	6
Spongia usta		24	0
Spiritus Ammoniæ	M. lb.	5	0
— —— aromaticus		6	0
— —— fœtidus		6	6
— —— succinatus		5	6
— Cinnamomi		4	0
— Lavendulæ		6	0
— Myristicæ		4	0
— Pimentæ		3	6
— Rosmarini		4	6
— Ætheris Aromaticus		7	6
— — Nitrici		6	6
— — Sulphurici		7	6
— — Compositus		7	6
— Vini rectificatus	cong.	28	0
Syrupus Papaveris	lb.	2	4
Sulphur		0	6
— Sublimatum		0	8
— Lotum		1	8
— Præcipitatum		4	0
Tamarindi Pulpa opt.		2	4
Terebinthina Vulgaris		0	10
—— Canadensis		8	6
—— Chia		14	0
Tinct. Ferri muriatis		[illegible]	6
Tragacantha Gummi, elect.		8	0
Valerianæ Radix		1	4
Veratri Radix		2	6
Unguentum Hydrargyri fortius		5	6
—— —— Nitratis		2	8
—— —— Nitrico-oxydi		3	6
Uvæ Ursi Folia elect.		5	0
Zinci Oxydum		7	0
— Sulphas purif.		3	0
Zingiberis Radix opt.		5	6

Prices of New Phials per Gross.——8 oz. 70*s* —6 oz. 58*s*.—4 oz. 47*s*.—3 oz. 43*s*.—2 oz. and 1½ oz. 36*s*.—1 oz. 30*s*.—half oz. 24*s*.

Prices of second-hand Phials cleaned, and sorted.———8 oz. 46*s*.—6 oz. 42*s*.—4. oz. 36*s*. 3 oz. 30*s*.—2 oz. and all below this size, 21*s*.

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Conversations on Botany, *with Plates.*

On the Nature and Treatment of Tetanus and Hydrophobia, with some Observations on a Natural Classification of Diseases in General. By Robert Reid, M.D. 8vo.

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